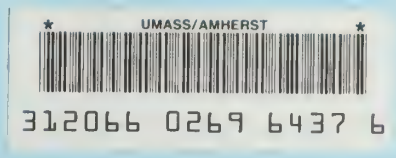

Division of Health Care Finance and Policy

Case Mix Payer Validation Report

May 1998

Barbara Erban Weinstein, Commissioner

Argeo Paul Cellucci, Governor
Commonwealth of Massachusetts

William D. O'Leary, Secretary
Executive Office of Health and Human Services

Executive Summary

The source of payment captured in the Massachusetts Division of Health Care Finance and Policy (DHCFP) case mix data base provides significant detailed payer information for hospitals and other case mix data users. The source of payment is used in combination with other useful clinical and financial information contained in this data base of approximately 750,000 Massachusetts acute hospital discharges for detailed payer analysis. Consequently, "source of payment" is a highly valued and frequently used data element in the DHCFP case mix data base.

Payer Source Field Added to DHCFP Case Mix Data Base

The "payer source" field was added to the DHCFP case mix data base in January 1994 by expanding the previous payer data to add more than 150 new and extensive payer source codes. This field allows the hospitals to report the exact plan of a particular carrier. The payer source provides payer information by displaying the patient's exact plan such as Fallon Community Health Plan and Medicare HMO Fallon Senior Plan. Its predecessor, the "payer type", is composed of general categories, for example, HMO or commercial. Thus, the payer source enables the DHCFP case mix data user to perform a more detailed level of payer analysis. Massachusetts is one of the few states that makes payer information available with this level of specificity.

Case Mix Payer Validation Project Launched

The Case Mix Payer Validation Project was initiated by the Division of Health Care Finance and Policy to provide information to hospitals, data users and other interested parties about the accuracy of the DHCFP case mix payer source data. Hospitals and data users have had a keen interest in the quality and reliability of the payer source data reported since its inception. Therefore, the primary objective of the project was to analyze and evaluate the accuracy of the payer source data and to communicate the results, thus creating awareness among hospitals and end users regarding the quality and reliability of the DHCFP case mix payer source data.

The Case Mix Payer Validation Project was achieved through a cooperative effort between the Division of Health Care Finance and Policy, acute care hospitals, and four major payers: Fallon Community Health Plan, Harvard Community Health Plan, Blue Cross Blue Shield of Massachusetts, and the Massachusetts Division of Medical Assistance. The payers are among the largest payers represented in the Case Mix Data base. The analysis encompasses a detailed comparative review between DHCFP's case mix payer source data and insurer claim data from each participating payer with the exception of Blue Cross. Specific plans for Fallon Community Health Plan, Harvard Community Health Plan and the Massachusetts Division of Medi-

cal Assistance (Medicaid) were reviewed including each payer's Medicare and Medicaid managed care plans.

Project Findings

The Case Mix Payer Validation Project's findings demonstrated substantial accuracy and consistent precision in reporting of the case mix payer source for the payers under study. Principal findings are as follows:

- The majority of case mix data reported the payer's precise plan.
- Most remaining cases were accurately identified with the specific payer by using the payer's most common plan or by using both the primary and secondary payer sources.
- Few records could not be associated with the specific payer.

The majority of cases matched precisely between the case mix data payer source and the insurer's reported plan. Most of the remaining cases could be identified with the specific payer, although not a particular plan of that payer. For the most part, these cases entailed hospital reporting of the payer's most common plan or HMO instead of the most precise plan. The case mix payer source corresponds with the insurer's data an average of 98% when combining the precise payer source matches with the accurately "identified" payer sources.

The Majority of Payer Data Precisely Reported the Payer's Exact Plan

For the great majority of records, there was a precise match between the case mix data payer source and the insurer's reported plan. With Fallon and Harvard Community Health Plans, for example, the number of precise case mix data payer source matches to the payer's specific plan were 84% or better. With Medicaid, the number of precise matches were just under 70%. Hospital feedback garnered for the review of Medicaid data substantiated unawareness or unfamiliarity with the new Medicaid managed care payer source codes early in their 1994 implementation, the same time period used for the Medicaid data review. This most likely contributed to the higher level of reporting imprecision for Medicaid as compared to the other payers. The comparative analysis between DHCFP case mix data and payer data resulted in the breakout below.

Comparing DHCFP Case Mix and Payer Data

Payer Data Reviewed	Precise Payer Match Percent	Identifiable Payer Percent	Non-Identifiable Payer Percent
Fallon	84.0%	14.0% [1]	2.0%
HCHP	90.0%[2]	6.0% [3]	2.4%[4]
Medicaid	69.4%	28.9% [5]	1.7%

Note: The project used the most current data available for each payer. Fallon Community Health Plan and HCHP used 1995 data. Medicaid used 1994 data.

Most Remaining Cases Were Not Exact but, Nevertheless, Could Be Accurately Identified with the Specific Payer Using the Payer's Most Common Plan or by Using a Combination of the Primary and Secondary Payer Sources

The identifiable payer percents indicate the percent of non-matches that were clearly identified as the payer under study. These identifiable cases were primarily the result of hospitals using the payer's most common plan or HMO instead of the precise plan. The next largest area of identifiable non-matches were found by analyzing together the "primary" and "secondary" case mix payer sources. While not reporting the precise plan as the primary payer source, hospitals provided enough information in the primary and secondary payer sources to identify the specific payer. The implication for data users is to consider inclusion of the payer's most common plan and the primary and secondary payer sources when performing a comprehensive review of a specific payer or plan.

Only a Very Small Number of Cases Could Not Be Identified

The small percentages of non-identifiable cases indicate a high rate of success among hospitals in reporting this data. The number of records that proved to be too general to associate with a specific payer or that were "non-identifiable" averaged only two percent. The non-identifiable or "general" payer source group was largely composed of non-matches that used catch-all payer sources such as "other" or "Medicare HMO." As such, there was no indication as to which specific payer the patient belonged.

Use of the "other" payer source was evaluated early on during the project's baseline analysis of the case mix data. This analysis revealed that a small number of hospitals reported an "other" payer source code for more than 20% of their discharges. To address this issue, the Division of Health Care Finance and Policy promptly contacted these hospitals to discuss the findings. The Division also updated the payer source list recently with extensive new and specific payer sources identified during the course of the project.

Based on Project Findings, the Case Mix Payer Source Data Sample Can Be Considered Reliable, Valid and Useful

The *Case Mix Payer Validation Report* supports the accuracy of payer source reporting throughout this detailed comparative review of the DHCFP case mix data payer source with each participating payer. The overwhelming majority of DHCFP case mix payer source discharges were either precisely reported with the specific payer's exact payer source or were accurately identified with the specific payer. This study should build confidence among users of the payer source fields within the case mix data. It is expected that the payer source data should become even more accurate with hospital use of the updated payer codes which commence October, 1997. The Division of Health Care Finance and Policy hopes that the information in this report will benefit both hospitals and users of the DHCFP case mix data.

End Notes for Executive Summary

1. Fallon includes percents for "Fallon Selected but not the Precise Plan" at 11.7% and "Use of Primary and Secondary Payer Source" at 2.2%.

2. HCHP includes cases where DHCFP did not have several new HCHP plans listed as a choice for case mix reporting but hospitals accurately reported either HCHP HMO or the closest most appropriate choice at 5.4% of the 90% listed for precise matches. For example, hospitals reported HCHP HMO for the HCHP POS plan and hospitals reported Medicare HMO - HCHP Senior Care for the HCHP Medicare wrap plans.

3. HCHP includes percents for "HCHP Selected but not the Precise Plan" at 3.8% and "Use of Primary and Secondary Payer Source" at 2.1%.

4. HCHP's adjusted "non-identifiable" non-match rate is reported here as 2.4%. HCHP's total non-identifiable non-match rate of 4.2%, was largely the result of one hospital. That one hospital reported "Other HMO" accounting for 1.8% of HCHP's total non-identifiable non-match records.

5. Medicaid includes percents for "Medicaid Selected but not the Precise Plan" at 25.5%, "Use of Primary and Secondary Payer Source" at 3.17%, and "Medicaid Managed Care HMO versus Medicaid" at 0.2%.

Case Mix Payer Validation Report

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Acknowledgments

The Case Mix Payer Validation Project was a success due to the earnest participation of four payers: Fallon Community Health Plan, Harvard Community Health Plan, Blue Cross Blue Shield of Massachusetts, and the Massachusetts Division of Medical Assistance. The payer task force encouraged insurers to participate on a voluntary basis in the sharing of their claims data with the Division of Health Care Finance and Policy. Insurer staff greatly assisted the Division in obtaining the insurer claims data in a useable format and in providing their expertise for specific insurer data related questions during the course of the project. The Division of Health Care Finance and Policy gratefully acknowledges the participation of these four payers and those involved at the participating organizations.

The Division would especially like to thank Joseph Young of Fallon Community Health Plan, Kathy Coltin of Harvard Community Health Plan, Kim Colasanti of Harvard Community Health Plan, Laura Ashe of Blue Cross Blue Shield, and the Information Analysis Unit of the Division of Medical Assistance.

Many thanks to all.

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Case Mix Payer Validation Report

Preface

The Division of Health Care Finance and Policy collects, analyzes and disseminates information with the goal of improving the quality, efficiency and effectiveness of the health care delivery system in Massachusetts. In addition, the Division administers the Uncompensated Care Pool, a fund that reimburses Massachusetts acute care hospitals and community health centers for services provided to uninsured and underinsured individuals.

Satisfying the Need for Health Care Information

The effectiveness of the health care system depends in part upon the availability of applicable information. In order for this system to function properly, purchasers must have accurate and useful information about quality, pricing, supply and available alternatives. Providers need information on the productivity and efficiency of their business operations to develop strategies to improve the effectiveness of the services they deliver. State policy makers need to be advised of the present health care environment, as they consider where policy investigation or action may be appropriate.

As part of its health care information program, the Division of Health Care Finance and Policy publishes reports to meet this need for information. These reports fo-

Mission

The Division's mission is to contribute to the development of policies that improve the delivery and financing of health care in Massachusetts by:

- collecting and analyzing data from throughout the health care delivery system;
- disseminating accurate information and analysis on a timely basis;
- facilitating the use of information among health care purchasers, providers, consumers and policy makers; and
- monitoring free care in the Commonwealth through thoughtful administration of the Uncompensated Care Pool.

cus on various health care policy and market issues.

Organizational Structure

The Division of Health Care Finance and Policy is an administrative agency within the Executive Office of Health and Human Services. The Commissioner is appointed by the Governor.

The organizational structure is comprised of several distinct groups:

- Health Systems Measurement and Improvement Group
- Health Data Policy Group
- Pricing Policy and Financial Analysis Group
- Audit, Compliance and Evaluation Group

Each group is responsible for a different aspect of the agency mission.

Health Systems Measurement and Improvement Group

The Health Systems Measurement and Improvement Group works to accelerate efforts to improve the delivery of primary care services in Massachusetts. Toward this end, the Group provides research and demonstration resources to other state agencies, facilitates and supports the development of statewide measurement systems for quality and efficiency in collaboration with hospitals and health plans, and strives to meet the information needs of the administration and legislature regarding the changing health care system. In addition, the Health Systems Measurement and Improvement Group acts as the central source of health care information for the Division of Health Care Finance and Policy.

Health Data Policy Group

The Health Data Policy Group is charged with having a vision for the management, development and potential use of Division of Health Care Finance and Policy data by researching and evaluating health data management and policy issues.

The group also is responsible for identifying and developing confidentiality and privacy protocols, data base quality improvement, customer driven data products and consistent data policies. The goal of this group is to anticipate future health care information needs and recommend product development that is accurate, useful, realistic and timely.

Pricing Policy and Financial Analysis Group

The Pricing Policy and Financial Analysis Group develops health care pricing policies, methods and rates which support the procurement of high quality services for public beneficiaries in the most cost-effective manner possible. This group also provides information, analysis and recommendations to policy makers to support their health care financing decisions, and performs specialized analyses of innovative health care financing and purchasing methods.

Audit, Compliance and Evaluation Group

The Audit Compliance and Evaluation (ACE) Group examines financial data reported to the Division of Health Care Finance and Policy. The ACE Group performs audit, review, screening and quality control functions that provide the building blocks for the Division's work in developing pricing policies and measurement tools to improve the health care system in Massachusetts.

The Division of Health Care Finance and Policy's support units include Administration, the Information Technology Group,

the Office of the General Counsel and the Office of Communications.

Administration

The Office of the Executive Secretary oversees the agency's budget, regulatory process and personnel.

Information Technology Group

The Information Technology Group is responsible for managing the Division's computer network and data bases.

Office of the General Counsel

The Office of the General Counsel litigates administrative appeals filed by providers, analyzes proposed legislation relative to the health care delivery system and provides legal advice to the Commissioner and staff concerning the development and application of regulations, policy positions and pricing information.

Office of Communications

The Office of Communications produces the Division's publications and serves as the point of contact for inquiries from outside parties.

This structure reflects the focus of the agency mission and supports the Division's efforts to provide useful health care information to purchasers, providers, and policy makers throughout Massachusetts.

Project Plan Strategy and Process

The Case Mix Payer Validation Project required garnering and coordinating the voluntary involvement of the participating insurers; developing a process for obtaining, protecting, and linking several large yet diverse data sets; carrying out detailed data analysis; and summarizing and communicating the complex results in a user friendly and intelligible format.

Project Phases

The project was comprised of three phases. Phase I focused on a baseline analysis of the payer data in the Division of Health Care Finance and Policy (DHCFP) case mix data base, as well as on the review and updating of over 150 existing case mix payer types and sources to account for plan deletions, name changes, mergers, and the origination of new plans.[1]

Phase II focused on the in-depth analysis of data sets from Fallon Community Health Plan, Harvard Community Health Plan, and Medicaid. Using private insurer data sets in Phase II was beneficial since it provided DHCFP staff with an opportunity to look at more current Medicaid Managed Care data contained within the data sets of the private insurer. Moreover, although the Division received no data directly from Medicare, DHCFP staff also were able to analyze the Medicare Managed Care payer source by using the insurer claims data.

Phase III focused on compilation of the findings and graphs for the participating payers into a final report and delivery of the final report to hospitals and participating insurers. An addendum on the analysis of Blue Cross Blue Shield of Massachusetts data may be undertaken by the Division if necessary as time and resources permit.

Project Objective

The project objective of the Division was to validate the accuracy of the "payer source" field data in the DHCFP case mix data base for which there are approximately 150 different payer source plans. Validation was accomplished by comparing the payer source data as reported by hospitals in the DHCFP case mix data base with insurer claims data.

The DHCFP case mix data base has two payer code fields for the primary payer ("primary payer type" and "primary payer source") and two payer code fields for the secondary payer ("secondary payer type" and "secondary payer source"). Thus, a total of four payer codes are required for each patient discharge.

A more comprehensive validation was accomplished by including both the "primary payer source" and "secondary payer source" fields in the review. Only acute hospital inpatient claims records were matched to DHCFP case mix data in this analysis. The most current data available from the majority of the participating insurers at the onset of the project was the quarter beginning January 1, 1995. Thus, this quarter was used for Fallon Community Health Plan, Harvard

Validation Project Sequence

The validation process developed for the project involved the following major steps:

Phase I

- *Conducted a baseline analysis of DHCFP case mix payer source data*
  - Reviewed hospital-reported payer sources (see Figure 4 on page 12)
    —Percent of statewide discharges for each participating insurer
    —Percentage breakout of other major payer groupings
  - Reviewed non-matches between hospital-reported payer type and payer source (see Figure 1 on page 6 and Figure 2 on page 7)
  - Reviewed the extent of use of "Other" by acute hospitals as a default payer source (see Figure 3 on page 11)
- *Reviewed and updated 150 payer sources in the DHCFP case mix regulation*
  - Contacted numerous major health insurers throughout the state to obtain the most current list of their health plans and product types (see Appendix D)
  - Recommended updates were adopted by DHCFP on April 18, 1997, communicated to hospitals shortly thereafter, and were implemented beginning with the October 1, 1997 hospital discharge data

Phase II

- *Compared the DHCFP case mix payer source data to data from each of the following payers: Fallon Community Health Plan; Harvard Community Health Plan; and Medicaid (see Figures 5-18). This detailed comparative analysis involved the following actions:*
  - Categorization of non-matches into several broad types
  - Summary percent calculations for non-matches
  - Identification of the most common types of non-matches
  - Summarization of non-match issues
  - Implications for DHCFP case mix data users

Phase III

- *Compilation into a final report of findings and graphs for all payers studied*
- *Mailing of final report to hospitals and participating insurers*
- *Comparison of DHCFP case mix payer source data to Blue Cross Blue Shield of Massachusetts data for addendum, as time and resources permit*

Community Health Plan, and Blue Cross Blue Shield of Massachusetts for consistent comparisons throughout the project. Medicaid data was the exception as 1994 data was the most current available data, and as a result, it was used for the primary Medicaid validation. As noted above, however, use of the data sets from participating managed care insurers allowed Division staff to look at more current data for the Medicaid managed care population.

Participating Insurers

The payer task force encouraged insurers to participate on a voluntary basis in the sharing of their claims data with the Division of Health Care Finance and Policy. Insurers were assured that the data would be used solely for the purpose of the validation project. The insurers that were selected and ultimately agreed to participate in the DHCFP validation study include four major payers:

- Fallon Community Health Plan
- Harvard Community Health Plan
- Division of Medical Assistance (Medicaid Program)
- Blue Cross Blue Shield of Massachusetts

The above payers comprised approximately 30% of the total DHCFP case mix data for Fiscal Year 1995. In general, the participating insurers were very enthusiastic about this project.

Data Confidentiality

One area of primary focus for the insurers, as well as for the Division, was protecting the confidentiality of the claims data supplied by the insurers. The Division is required to account for and protect records containing personal data pursuant to the *Fair Information Practices Act* (FIPA), M.G.L.c.66A. Personal data is defined as "any information concerning an individual which, because of name, identifying number, mark or description can be readily associated with a particular individual," M.G.L.c.66A.

To safeguard patient information, a carefully selected and limited number of necessary data elements were requested by the Division and then used as the basis for matching records. To further alleviate any concerns, participating insurers received written specifications on the necessary data elements, and project confidentiality parameters.

When necessary, some insurers agreed to provide social security numbers solely for the purpose of accuracy in matching unwieldy records. These numbers were then encrypted by the Division (using the DHCFP encryption methodology) and matched to the existing encrypted Unique Health Identification Numbers (UHINs) in the DHCFP case mix data base. The DHCFP Legal Department and Data Protection Committee (DPC) were kept apprised of the project.

Creation of Linked DHCFP Case Mix—Insurer Data Sets

Selection and standardization of comparable data elements were crucial steps enabling the project staff to link the DHCFP case mix data set to the insurer data sets. The carefully selected subset of payer source claims data submitted to the Division from insurers was reviewed and adjusted as necessary. Variables needed to be standardized across the two data sets in order for the insurer data to be linked to the DHCFP case mix data set. Records were matched using unique variables which varied depending on the data content of each insurer. When necessary,

Social Security numbers were used in an encrypted format (encrypted at DHCFP). If the Social Security number was not available, date of birth, admission date, sex, and hospital identification number were used as matching components. Discharge date was generally not used as a matching variable due to the high variability in how it is reported to insurers versus how it is reported to the Division for its case mix data base.

End Note for Project Plan Strategy and Process

1. "Payer type" refers to the general plan type, i.e. "HMO" or "Commercial", while "payer source" refers to the more specific plan name for use within that type, i.e. "Fallon Community Health Plan" or "Aetna", respectively.

Phase I: Baseline Analysis of DHCFP Case Mix Payer Source Data

An initial baseline review of the "payer source" field in the Division of Health Care Finance and Policy (DHCFP) case mix data base was conducted at the outset of this project. This review allowed for a comprehensive understanding of the current data before beginning the more focused comparative review of DHCFP payer data to data from each participating insurer. This baseline review also served to highlight possible problem areas, including any general or specific insurer or hospital issues. Baseline data was also gathered on the distribution of acute care admissions by payer to determine what percentage of DHCFP case mix data would be reviewed by this project (see Figure 4 on page 12).

Payer Type and Payer Source Overview

The DHCFP case mix regulation specifies the assigned "general" payer type (such as "HMO") match for each "specific" payer source (such as "Fallon") and the assigned codes are edit-checked by the Division when hospitals submit their case mix data. Hospitals are required to select both a payer source and its assigned (matching) payer type for the primary payer, as well as for the secondary payer, for each inpatient discharge. When a hospital reports the payer type and payer source of a discharge record, the payer type must fall within the correct matching category for the reported payer source, as specified by the Division in the DHCFP case mix regulation.

Each payer source code has only one Division-designated payer type match code. If the codes do not match, they are classified as errors under the DHCFP edit check system and are then counted towards the case mix tape error rate of the hospital. Hospitals with error rates of one percent or more in their case mix data will not pass the quarterly edits and are required to resubmit. As a result of the DHCFP edit system, the non-match rate between hospital-reported payer type and source should be limited.

Figure 1 on page 6 displays the types of non-matches that were found, as well as the number of hospitals that had non-matches in a particular payer category. To better understand the payer non-match issues discussed below, please refer to the original payer list in Appendix A on page 59 which shows the correct matching payer type and payer source codes.

Review of Payer Type and Payer Source Non-Matches

The discharge data was reviewed according to the classification required in the DHCFP case mix regulation to identify non-matching payer type and payer source fields. The Division used the most current and complete quarters of case mix data available which were synchronous with the available quarters of participating insurer data at the time (October 1, 1994 through March 31, 1995). Categorization of the non-matching

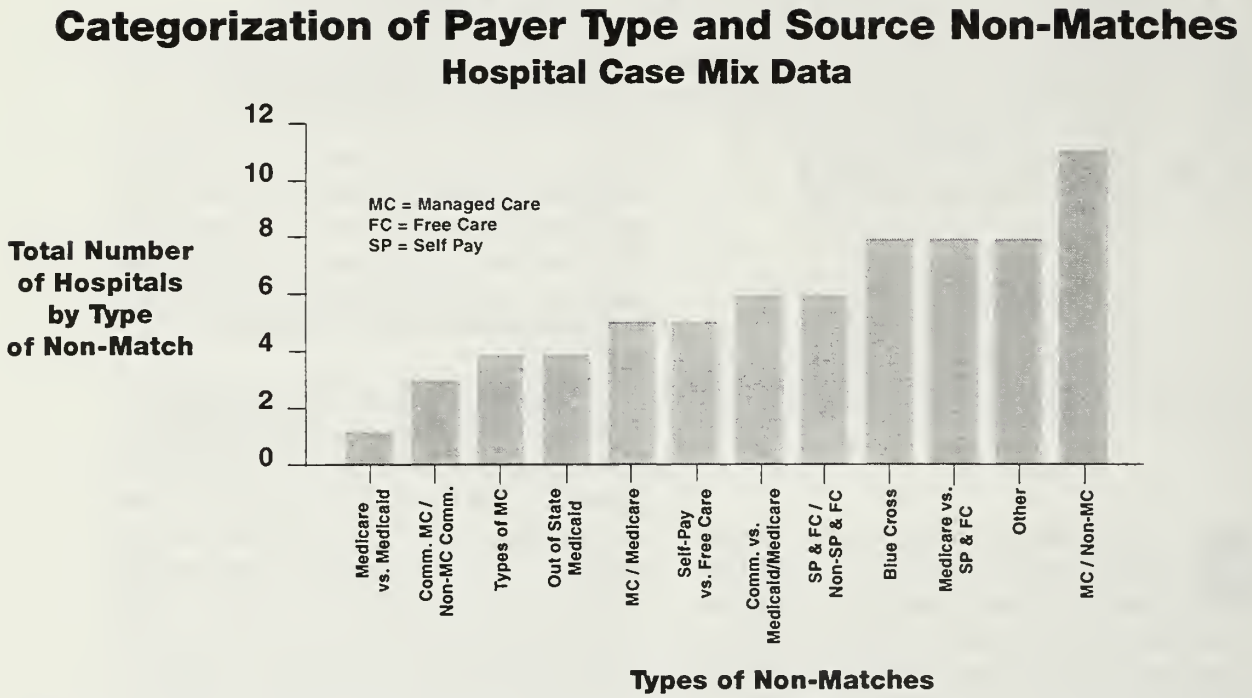

Figure 1 This figure shows total numbers where the Case Mix Payer Type did not match the assigned Payer Source as listed in the case mix regulation.

Source: DHCFP Massachusetts hospital case mix discharge data for 10/01/94 - 03/31/95

payer type and payer source fields can be seen in Figure 1 above.

Findings demonstrated that the total payer type and payer source non-matches for each hospital were insignificant, as expected. The findings showed that out of a total of 398,734 discharges reviewed, only 259 payer types did not match the designated payer source. Though these non-matches occurred at 36 of the 83 hospitals, in general, the numbers of non-matches were relatively small for each hospital. Figure 2 on page 7 displays the non-matches by hospital and by payer category. Overall, the following points can be summarized from the payer type and payer source review:

- The overall non-matching payer type and payer source rate was insignificant at less than one percent (0.06%) of the total discharges reviewed.
- The majority of hospitals with non-matching payer type and payer source had less than ten non-matches.
- 58% of the hospitals with non-matching payer type and payer source had four or less non-matches.
- 70% of the hospitals with non-matching payer type and payer source had eight or less non-matches.

Possible Reasons for Non-Matching Payer Type and Payer Source

Although relatively small in number, the analysis that follows will outline the possible reasons for these payer type and payer source non-matches. There appears to have been a general lack of understanding

among a limited number of hospitals as to the setup and appropriate use of the payer type and payer source list in the DHCFP case mix regulation. In addition, lack of familiarity with the full range of choices on the payer source list led to some imprecision in payer selection. Key problem areas are outlined below and described in further detail immediately thereafter:

- Mixing and matching payer types and payer sources instead of using the designated matches of the Division
- Equating (confusing) payer type with the "primary payer" and payer source with the "secondary payer"
- Lack of selection specificity/lack of precision
- Improper reporting of Medicare Managed Care and Medicaid Managed Care discharges
- Improper reporting of the payer type for the "Out of State Medicaid" payer source
- Handling of new and/or unlisted payer sources

Mixing and Matching Payer Types and Payer Sources

The payer type and payer source codes were created as matched sets and have been predetermined by the Division of Health Care Finance and Policy. Thus for each payer source, there is only one possible matching payer type that will be accepted. This re-

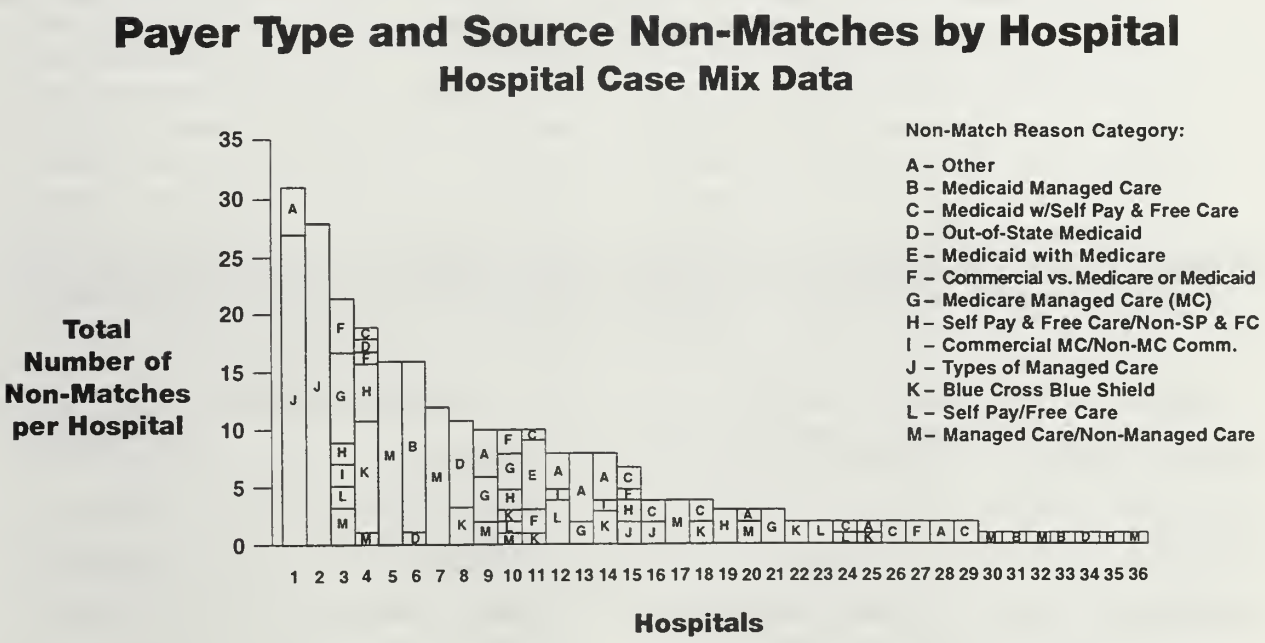

Figure 2 This figure displays Payer Type and Payer Source non-matches only and is not reflective of "Other" Payer Source usage. Mass. hospitals are listed 1-36 and non-match categories are labeled A-M.

Source: DHCFP Massachusetts hospital case mix discharge data for 10/01/94 - 03/31/95

moves any need for hospital discretion when choosing matching payer source and payer type for a given patient record and provides for necessary consistency in reporting of payer source and payer type among all acute care hospitals. Once the proper payer source is selected, the matching payer type should follow automatically.

Some hospitals may not have understood that the Division of Health Care Finance and Policy case mix regulation does not allow for hospital discretion in matching payer source with payer type. Hospitals are required to use matching payer codes exactly as they appear in the regulation. Some hospitals mistakenly mixed and matched payer type and payer source codes using their own judgment, thus causing errors in the payer type and payer source matches.

For example, some hospitals experienced problems in selecting the appropriate matches for Medicaid, free care, and self-pay. In the preset matches for the categories "Self-Pay", "Worker's Compensation", "Free Care", "Regular Medicaid" and "Regular Medicare", the payer type and payer source descriptions are always the same. This is true for these categories whether they fall in the primary or secondary payer type and payer source.

Below is a table of the commonly occurring yet frequently mis-reported payers with the correct predetermined payer type and payer source matches and codes. Some hospitals when using these categories as the payer type, used various other self-selected payer sources with them instead. For instance, hospitals mixed one payer type with another unrelated source (i.e. "Self-Pay" as the payer type with "Free Care" as the payer source, or "Medicaid" as the payer type with "Free Care" as the payer source, or "Medicare" as the payer type and "Medicaid" as the payer source).

Particularly with Medicaid and Medicare errors, this could indicate confusion in noting which payer should be listed as primary and which should be listed as secondary, or in equating (confusing) the payer type and payer source with the primary and secondary payer. Please refer to the next section for additional information on this issue.

Non-matching Payer Sources and Types

Payer Source Description and Code		Corresponding Payer Type	
Regular Medicaid	Source Code 103	Medicaid	Type Code 4
Regular Medicare	Source Code 121	Medicare	Type Code 3
Free Care	Source Code 143	Free Care	Type Code 9
Out-of-State Medicaid	Source Code 120	Other Government	Type Code 5
Self-Pay	Source Code 145	Self-Pay	Type Code 1
Worker's Compensation	Source Code 146	Worker's Compensation	Type Code 2

Confusing Payer Type and Payer Source with the Primary and Secondary Payer

As noted earlier, the Division of Health Care Finance and Policy case mix data set has two payer code fields for the primary payer ("primary payer type" and "primary payer source") and two payer code fields for the secondary payer ("secondary payer type" and "secondary payer source"). Thus, a total of four payer codes are required for each patient discharge.

Even if no secondary payer exists, the payer type and payer source code must still be reported signifying "none" for the secondary payer type (Payer Type Code N) and secondary payer source (Payer Source Code 159). The secondary payer type and payer source fields must not be left blank. The codes for "none" are not applicable to the primary payer fields, because there must be a primary payer listed in all cases, even if the payer is "Self-Pay" or "Free Care."

Some hospitals may be incorrectly equating the first payer type and payer source fields with the primary and secondary payer. The first payer type field corresponds to the first payer source field. Likewise, the second payer type field corresponds to the second payer source field. Payer type and payer source fields are matched fields and are not meant to represent primary and secondary payers. Hospitals wanting to report information for a secondary payer must use the "secondary payer type" and "secondary payer source" matching fields, not the "primary payer source" field.

"Payer type" and "payer source" are descriptive terms only and are meant to define the general or specific nature of the payer. For instance, "payer type" refers to the general plan type, i.e. "HMO" or "Commercial," while "payer source" refers to the more specific plan name for use within that type, i.e. "Fallon Community Health Plan" or "Aetna," respectively.

Lack of Selection Specificity

Selection specificity errors may occur if a hospital is not familiar with the whole payer source list. The hospital may select a payer source or payer type that is similar to, but not the exact match for, the actual payer. For instance, a hospital might mistakenly select the "Other Blue Cross Managed Care" payer source code instead of the more specific "HMO Blue" payer source code for an HMO Blue patient. While the choice is not incorrect, it is not the most appropriate or accurate choice for the payer source. Likewise, a hospital may select "Regular Medicaid" as the payer type instead of the more specific "Medicaid Managed Care" payer type for Medicaid Managed Care patients. More problems with Medicaid and Medicare Managed Care discharges are discussed below.

Medicaid Managed Care and Medicare Managed Care Discharges

There were several problems in selecting the correct payer type and payer source for managed care plans, but the major issue related to specificity errors with Medicaid Managed Care and Medicare Managed Care discharges. Hospitals sometimes correctly reported Medicaid Managed Care as the payer type, but incorrectly reported the specific Medicaid Managed Care payer source. Hospitals should report the more precise, and thus, more accurate payer source indicating the specific Medicaid managed care plan. For example, if the primary payer is Harvard Community Health Plan's Medicaid Managed Care Plan, the primary payer source "Medicaid Managed Care-Harvard Community Health Plan" (Payer Source Code 109) should be used with the corresponding primary payer type "Medicaid Managed Care" (Payer Type Code B). Specific Medicaid Managed Care payer source codes currently range

from Payer Source Code 104 - 119 and must be used with Medicaid Managed Care Payer Type Code B.

Some hospitals experienced similar problems with Medicare Managed Care discharges: they correctly reported Medicare Managed Care as Primary Payer Type Code F, but incorrectly reported Medicare as the specific payer source. Instead the more precise Medicare Managed Care Plan primary payer source codes should be used for the payer source. Specific Medicare Managed Care payer source codes currently range from Payer Source Code 122 - 134 and must be used with Medicare Managed Care Payer Type Code F.[1]

Other less frequent managed care non-matches included listing either Medicaid or Medicare as the payer type with a particular managed care insurer (i.e., Harvard Community Health Plan) as the payer source, or conversely listing the HMO as the payer type and Medicaid (or Medicare) as the payer source, instead of using the specific managed care plan Payer Source Codes 104 - 119 (for Medicaid Managed Care) or Payer Source Codes 122 - 134 (for Medicare Managed Care) as described above.

These mixing and matching errors may have resulted from a lack of familiarity with the full range of options on the payer source list leading to a lack of precision in the selection of the proper payer source codes, or, may have resulted from a general lack of understanding of how the matched payer type and payer source codes are to be used. In order to make the payer listing easier to use, the Division of Health Care Finance and Policy has provided to hospitals both an alphabetical and numerical payer listing for easier reference.

Out of State Medicaid Regulation Change

Another type of non-match was the use of "Medicaid" as the payer type with "Out-of-State-Medicaid" as the payer source. Out of State Medicaid programs (Payer Source Code 120) must be reported under payer type "Other Government" (Payer Type Code 5), not under payer type "Medicaid." The Out-of-State-Medicaid payer source was moved from payer type "Medicaid" to payer type "Other Government" effective January 1, 1994. This was addressed in the September 1993 DHCFP Administrative Bulletin 93-01: 114.1 CMR 17.00 and later reflected in the DHCFP case mix regulation. This non-match could be due to a lack of hospital staff awareness of this change.

New and Unlisted Payer Sources

In 35% of the payer type and payer source non-matched cases, specific payer sources were used with varying payer types other than the predetermined case mix payer type. This pattern may indicate that a particular product for a plan was not listed as an option on the DHCFP payer source list. Hospitals that are unsure about how to code a payer may resort to using their "best guess" or alternately may use the "Other" category as a default. In some cases, this may contribute to inappropriate use (overuse) of the "Other" category.

Hospitals that experience problems because an insurer is not listed on the payer source list should contact the Division of Health Care Finance and Policy so that the unlisted payer source may be incorporated into future updates of the payer source list.

Overuse of the "Other" Category

The frequency of reporting "Other" categories for the payer source was also reviewed. Ideally, the use of "Other" by hospi-

Hospital Utilization of "Other" Payer Source Categories

Hospital Case Mix Data

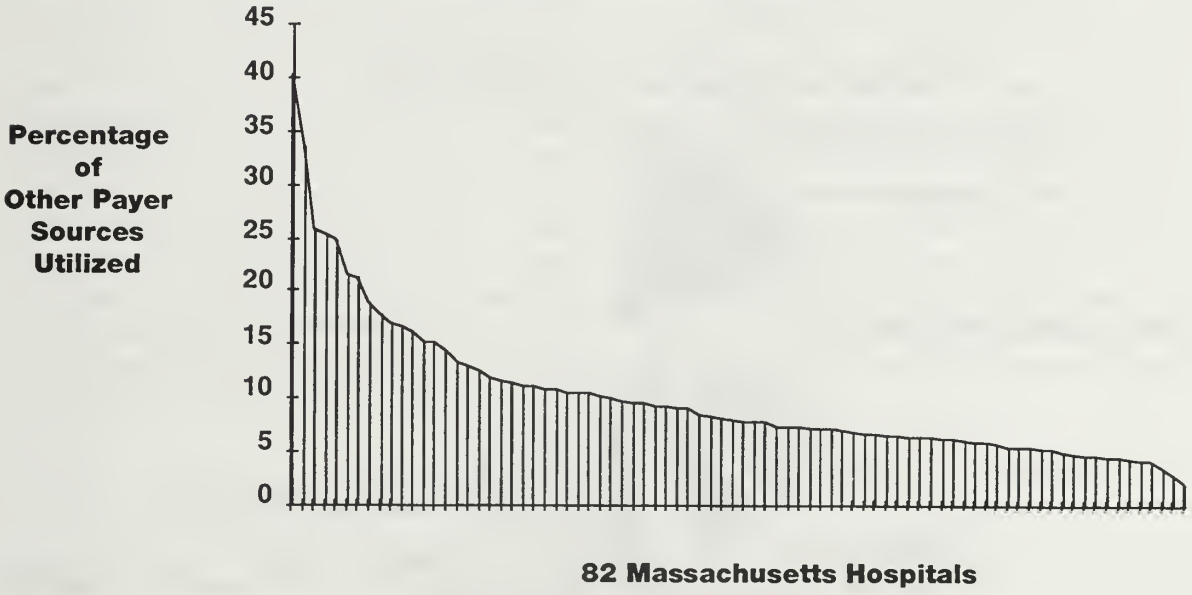

Figure 3 The percentages calculated are based on discharges reported in the following: Other HMO, Other PPO, Other Government, MDC-MC Other, MCR-MC Other and Other BCBS as compared to the hospital's total discharges.

Source: DHCFP Massachusetts hospital case mix discharge data for 10/01/94 - 03/31/95.

tals as a payer source code should be kept to a minimum as most reporting should reflect the use of a specific insurer for each patient. This is not always possible for two reasons—some new plans may not yet be listed on the payer source list and there are several existing health insurers that may not be listed as there are only a few enrollees ever hospitalized in Massachusetts in a given year. However, for most admissions, appropriate identification and selection should not be an issue and specific insurer code information should be used.

Review of the "Other" categories reveals its frequency of use (see Figure 3 above). The most significant "Other" category used was "Other Commercial," perhaps reflecting a lack of choice in the number of insurers in the commercial section of the payer list. "Other Commercial" was used largely by four hospitals and constituted over 20% of the discharges for each of those hospitals. This high percentage could be a result of a large out-of-state patient population for whom out-state-plans would typically not be listed as an option for reporting. This problem was addressed by contacting the major insurers in Massachusetts for a current listing of their products which was used for updating the DHCFP payer list.

Another significant finding is that one hospital reported 40% of its payer sources as "Other" and used only 12 payer sources; "Other HMO" represented 17% of its discharges. Additional "Other" categories used include the following: Other HMO, Other PPO, Other Government, Medicaid Managed Care Other, Medicare Managed Care Other, and Other Blue Cross Blue Shield (including both Regular Other Blue Cross Blue Shield and Other Blue Cross Blue Shield Managed Care).

Percent of Statewide Discharges from Acute Care Hospitals for All Payers
Hospital Case Mix Data

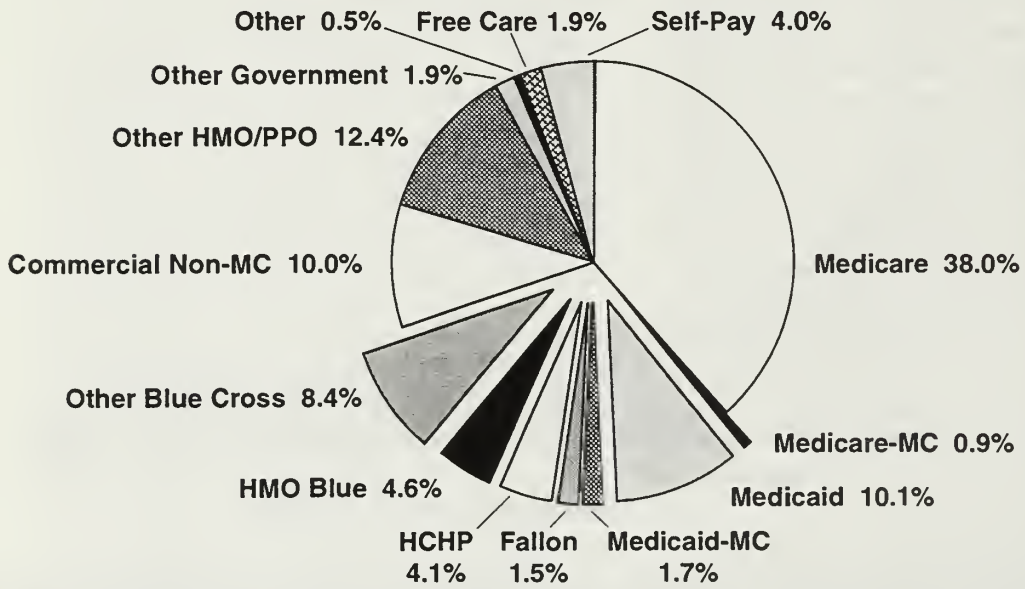

Figure 4 Based on 398,733 discharges. Exploded sections reflect payers participating in the validation project.

Source DHCFP Massachusetts hospital case mix discharge data for 10/01/94 - 03/31/95.

Review and Update of the DHCFP Case Mix Regulation Payer Types and Payer Sources

To maintain a current list of payer sources for hospitals to use in reporting case mix data payer information, individual insurers were contacted for specific plan updates. Thus, updates to the DHCFP case mix regulation payer source list were based on the information provided to the Division by the multitude of insurers who were contacted by phone in a time-consuming and labor intensive effort to discover which plans were new, obsolete, or had experienced name revisions (see Appendix D: Payer Mapping).

This proved to be an intricate process, due to rapid industry change, the large numbers of insurers, and frequent plan changes within insurers. As a result, the payer sources were extensively updated and ultimately adopted by the Division of Health Care Finance and Policy on April 18, 1997 (see Appendix B and C).

Other recommended and adopted DHCFP case mix regulation changes involved revising the presentation and setup of the payer sources. This project demonstrated the need for improved clarity in the setup of the payer sources.

Division staff discovered that having two required payer categories and codes (payer type and payer source) allowed some room for hospital confusion in selecting plans, particularly when insurers added new plans and the specific payer source was not yet available on the DHCFP payer list. This most often caused confusion when Commercial Plans added new HMO products and hospitals mixed and matched existing payer codes in an attempt to report an unlisted plan.

To help remedy this situation, the Division expanded payer type to assist hospitals in using the payer source list. Specifically, the following payer types have been split out: PPO, POS, and EPO. Additionally, the descriptive managed care designation HMO, PPO, POS, or EPO has been incorporated into the payer source name as necessary to improve clarity for all payer sources. For example, in the original payer list, Blue Cross Managed Care and Commercial Managed Care categories, unlike some of the other payer categories, did not specify whether the payer source was an HMO or PPO product.

Improvements to the Division of Health Care Finance and Policy payer list should assist hospitals with payer reporting. The addition of this descriptive should reduce any hospital confusion in selecting the appropriate option for payers that offer different product lines. Also, Medicare supplement payer sources have been listed together for easier reference. These payer type and payer categorical improvements were included in the April 18, 1997 DHCFP case mix regulation amendments along with the payer source updates and are effective for October 1, 1997.

End Note for Phase I: Baseline Analysis of DHCFP Case Mix Payer Source Data

1. Note that for the quarter beginning October 1, 1997, revised payer codes will be in effect. The revised Medicare managed care payer source codes will range from 125 - 134 and from 210 - 234. The Medicaid managed care payer source codes will continue to range from 104 - 119.

Phase II: Comparing DHCFP Case Mix Payer Source with Insurer Data

This section compares DHCFP case mix payer source data with data provided by each of the following insurers: Fallon Community Health Plan, Harvard Community Health Plan (HCHP) and Medicaid. Analysis was done individually for each payer and is provided below.

Fallon Community Health Plan Data Analysis

Overview

The comparative review of DHCFP case mix payer source data with Fallon Community Health Plan claims data encompassed 3,957 discharges from 30 hospitals for the first quarter of calendar year 1995 (January 1, 1995 through March 31, 1995). The hospitals with the highest volume of reported Fallon discharges are shown in Figure 5 on page 16. Of the 30 hospitals in this DHCFP Case Mix Payer Source Fallon Linked Data Set, the top 11 Fallon volume hospitals are shown by percent of Fallon discharges for each hospital. The majority of these 11 hospitals have less than eight percent of their discharges attributed to Fallon, as determined upon review of the linked data set. The remaining 19 hospitals each have less than one percent of their discharges for this quarter attributable to Fallon, and thus are not shown in Figure 5, although they are included in the Fallon analysis.

The effort to link the Fallon data set to the DHCFP case mix data was highly successful. Approximately 94% of the 4,232 Fallon acute inpatient hospital claims submitted to the Division were successfully linked to the DHCFP case mix data for the quarter under study using the criteria outlined below. This analysis was based on the resulting 3,957 records. The vast majority (84%) of the records showed an exact "payer source" match. Moreover, although all cases did not match exactly, further analysis revealed that nearly all cases (98%) were still identifiable as Fallon patients in the DHCFP case mix data base, though for various reasons hospitals may not have always selected the most precise Fallon payer source.

Detailed comparison of Fallon plan claims data with DHCFP case mix data revealed that 14% of cases in the linked data set were not reported as an exact match for payer source, but were reported with a nearly accurate Fallon plan. Nearly accurate payer sources were reported as a general or imprecise Fallon plan, or were reported using the primary and secondary payer sources, one of which included a Fallon plan. For instance, instead of reporting the one specific payer source that most accurately describes the plan (i.e. "Fallon Medicare Managed Care"), a hospital may have imprecisely reported "Medicare" as the primary payer source and "Fallon" as the secondary payer source.

Further comparison also showed that only two percent of the records in the total DHCFP Case Mix Payer Source Fallon Linked Data Set offered no indication in the DHCFP case mix data that they were Fallon discharges (see Figure 7 on page 19). These

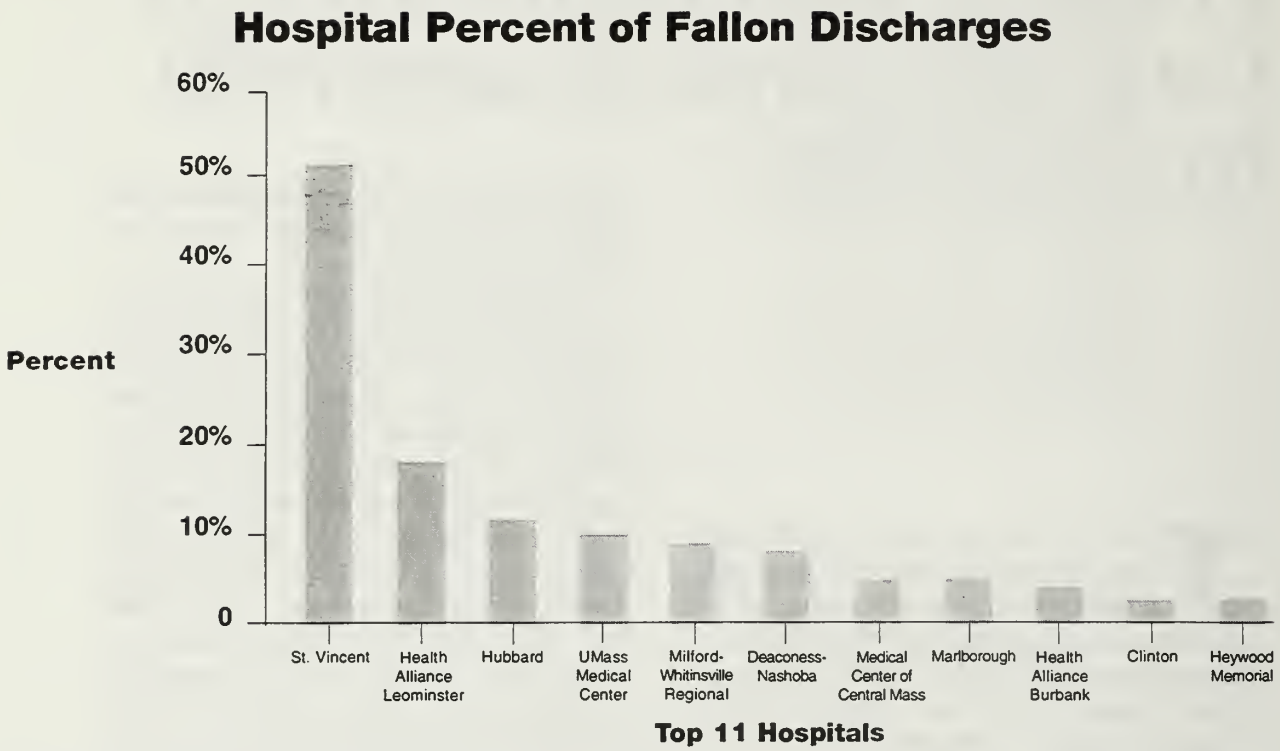

Figure 5 This chart presents the top 11 hospitals—out of 30 DHCFP Massachusetts Case Mix Hospitals—that had Fallon discharges included in the analysis.

Source: DHCFP Case Mix Payer Source Fallon Linked Data Set for 01/01/95 - 03/31/95.

records included cases reported as "Non-Fallon General" category payer sources (2.02%) and "Unexplainable" non-matches (0.15%).[1] Specifically, the majority of the two percent of non-matches were reported using the "Other" category as a default or were classified into general plans such as "Medicare" or "Medicaid." The Non-Matching DHCFP Case Mix Payer Source Fallon Data Subset is categorized in Figure 7 on page 19.

Creation of the DHCFP Case Mix Payer Source Fallon Linked Data Set

Fallon provided the Division with 4,232 Fallon acute hospital claims (from the first calendar year quarter of 1995) of which 3,957 records (94%) were successfully linked to the DHCFP case mix data. The Fallon claims data (records) were matched to the DHCFP case mix data using the criteria of admit date, date of birth, sex, and hospital. This criteria provided unique matches for most Fallon patients, with the exception of newborns.

Newborn discharge matches were complicated by the non-uniqueness of their admit date and date of birth in addition to the limited number of other variables in the Fallon data set that were available to the Division. Since newborn discharges had the same admit date as their date of birth, it was not possible to distinguish the matches between babies born with the same gender at the same hospital on the same day. As a result, the additional criteria of discharge date was added to the matching process for newborn records. Additional adjustments to the linked data set were made to account for duplicate matches occurring with the newborn discharges. Overall, 253 newborn Fallon

discharges were considered duplicate cases which could not be linked on a one-to-one basis to the DHCFP case mix data. Thus, these duplicate discharges were excluded resulting in 3,957 discharges in the linked data set. These matching criteria resulted in the successful 94% record link rate.

Detailed Review of DHCFP Case Mix Payer Source Fallon Linked Data Set

Fallon was comprised of three unique plan categories during the quarter under review. The original DHCFP case mix payer source list also contained three Fallon plans. The existing plans needed to be reviewed and equivalent plans determined in order to compare the DHCFP case mix discharges to the Fallon discharges within the linked data set. Below is a table showing equivalent plans between Fallon data and DHCFP case mix data.

The regular "Fallon HMO Plan" (Payer Source Code 4) accounts for the majority of the 3,957 discharges in the linked data set (55%), followed by "Fallon Medicare Managed Care" with 40%, and "Fallon Medicaid Managed Care" with five percent. These percents are derived from the total discharges for each of the three Fallon plans relative to the total discharges in the linked data set as shown in Figure 8 on page 22.

As part of DHCFP analysis, the primary and secondary DHCFP case mix payer sources were compared to the Fallon plan data. This comparison resulted in a split of the DHCFP Case Mix Payer Source Fallon Linked Data Set into two data subsets for analysis—one consisting of the discharges where an exact payer source match was found between the DHCFP case mix data and Fallon linked data, and a second data subset consisting of discharges where an exact match was not found. The Matching DHCFP Case Mix Payer Source Fallon Data Subset resulted in 3,319 discharges. The Non-Matching DHCFP Case Mix Payer Source Fallon Data Subset resulted in 638 discharges (see Figure 6 on page 18).

A comparison of the number of exact payer matches versus non-matches for each of the Fallon plans is shown in Figure 8 on page 22. The discharges with non-matching payer sources were categorized based on the plan data from Fallon. The majority of non-matches were caused by lack of specificity in the selection of the appropriate Fallon plans by the hospitals. For example, some hospitals reported "Fallon Medicare Managed Care" and "Fallon Medicaid Managed Care" as regu-

Table of Equivalent Fallon Plans

Fallon Plans	Equivalent Case Mix Payer Source
1. Fallon HMO Plan	Fallon HMO Plan: Source Code 4
2. Fallon Medicare Managed Care	Medicare HMO - Fallon Senior Plan: Source Code 125
3. Fallon Medicaid Managed Care	Fallon Medicaid Managed Care: Source Code 108

Fallon Claims versus Hospital Case Mix Data
Payer Source Matches versus Non-Matches

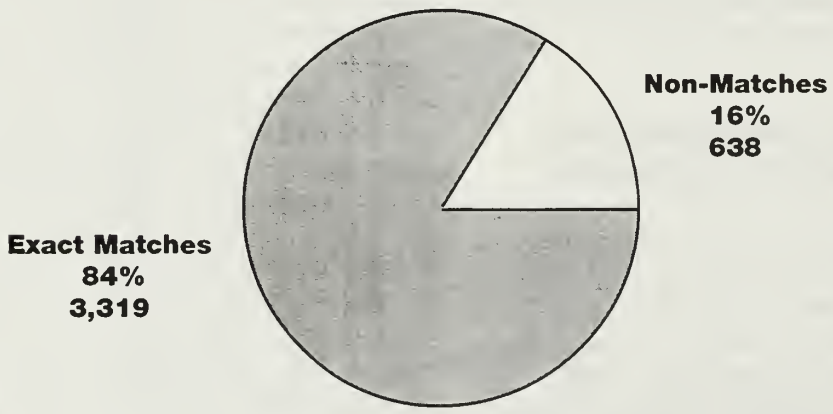

Figure 6 This figure is based on 3,957 Fallon acute care discharges. These discharges include Fallon Medicaid-Managed Care and Medicare-Managed Care patients.

Source: DHCFP Case Mix Payer Source Fallon Linked Data Set for 01/01/95 - 03/31/95

lar "Fallon HMO Plan" in the DHCFP case mix data. Please see the section below for a review of non-matching payer source data and the summary table of 638 non-matching Fallon payer discharges on page 20 for further information regarding the non-matching cases.

Review of Matching Payer Source Data Subset: Fallon Reported as Secondary Payer Source

Review of the Matching DHCFP Case Mix Payer Source Fallon Data Subset showed that Fallon Community Health Plan was reported as a "secondary payer source" for only 0.9% (29/3319) of the case mix discharges in the DHCFP Case Mix Payer Source Fallon Data Subset. Since the discharges in the Fallon claims data did not distinguish between Fallon as a primary payer and Fallon as a secondary payer, the Division was unable to substantiate Fallon as the primary or secondary payer source using the Fallon data set. In the majority of cases where Fallon was reported as the secondary payer, the primary payer source in the DHCFP case mix data base was reported as "Medicare" and the secondary payer source was reported as "Fallon" or "Medicare Managed Care-Fallon Senior Plan," representing nearly half (13/29) of the secondary payer sources reviewed in the matching data subset.

Review of Non-Matching Payer Source Data Subset

Each of the three Fallon plans were reviewed at the individual discharge level in the Non-Matching DHCFP Case Mix Payer

Source Fallon Data Subset. Seven standard categories or reasons for non-matching payers were established based on the data analysis and are used for the comparative analyses of the other insurer data sets. These seven broad categories were used in drawing conclusions for the detailed analysis of the 638 non-matching Fallon Community Health Plan discharges.

Of note is that most of the non-matches could be explained and that "Unexplainable" non-matches accounted for only 0.15% of the total DHCFP Case Mix Payer Source Fallon Linked Data Set. A comparison of Fallon Community Health Plan data to Division of Health Care Finance and Policy case mix data is shown in Figure 7 below which shows the percent of records with non-matching payer sources by the seven categories. The table of 638 non-matching Fallon Community Health Plan discharges is on page 20.

The table key explains how to interpret the table results. The seven non-matching categories are:

1. Unexplainable

2. General Fallon Plan Selected

3. Fallon Unlisted (payer source has no corresponding DHCFP payer source)

4. Primary and Secondary Payer Used (both payer sources were selected)

5. Other HMO or Commercial Plan Used (either payer source was selected)

6. Medicare HMO Other

7. Medicare or Medicaid or Medicaid PCC Only (only one of these selected)

Fallon Claims versus Hospital Case Mix Data

Percent of Non-Matches, Break Out by Division Category

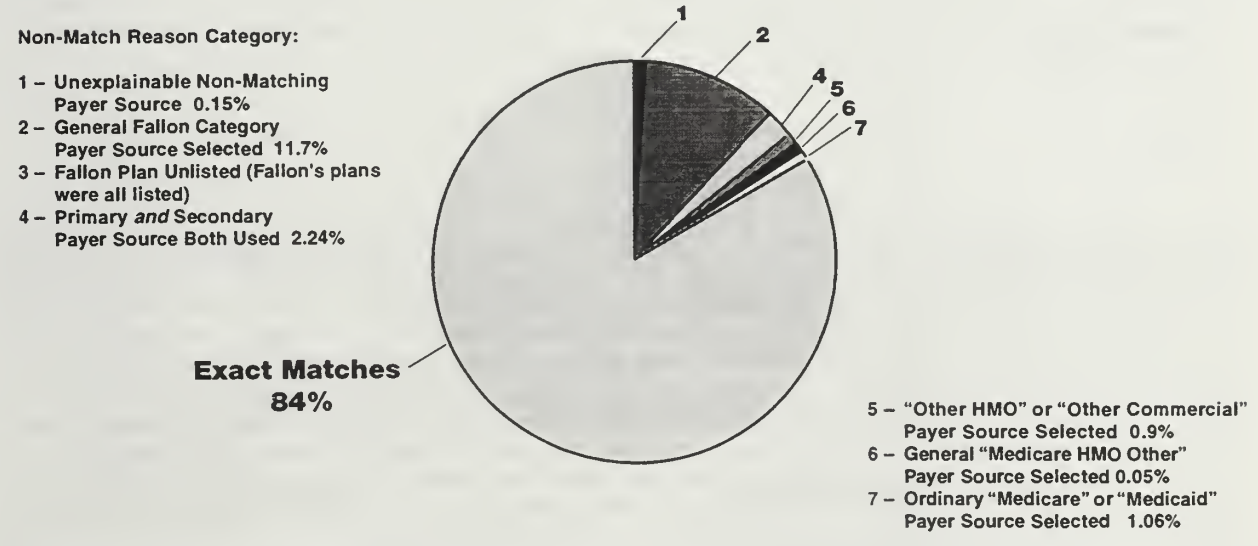

Figure 7 This figure is based on the 683 non-matching cases for Fallon shown in the table on page 20.

Source The Non-Matching Case Mix Payer Source Data Subset for 01/01/95 - 03/31/95

638 Non-Matching Cases for Fallon*

Non-Match Reason	Regular Fallon	Medicare Managed Care Fallon Senior Plan	Medicaid Managed Care Fallon	Total Cases	Percent of Total Data Set **
1. Unexplainable	5	0	1	6	0.15%
2. General Fallon Plan Selected	9	277	177	463	11.70%
3. Fallon Plan Unlisted (Fallon's plans were all listed)	N/A	N/A	N/A	N/A	N/A
4. Primary and Secondary Payer Used	0	68	21	89	2.24%
5. Other HMO or Commercial Plan Used	27	6	3	36	0.90%
6. Medicare HMO Other	0	2	0	2	0.05%
7. Medicare or Medicaid or Medicaid PCC only	24	9	9	42	1.06%
Totals	**65**	**362**	**211**	**638**	**16.10%**

* *Table Key.* The data in the table above are classified based on the three plan types in the Fallon claims data set: the data represent the number of cases reported in the Fallon claims data for each plan type for which there was not an exact match in the DHCFP case mix data. The seven categories on the far left of the table were developed to explain the reason for the non-match because there were differences in how the case mix data had payer reported for the same case(s). For example, five cases were reported in the Fallon claims data as regular "Fallon HMO Plan", but were reported in the DHCFP case mix data as another unrelated payer (such as "Self-Pay" or "Worker's Compensation"), offering no indication of belonging to Fallon. Thus, these five cases fall into the "Unexplainable"category. The Non-Matching DHCFP Case Mix Payer Source Fallon Data Subset corresponding to the table above are displayed by category percent in Figure 7 on page 19 and by Fallon plan and category break out in Figure 9 on page 23.

** Percent calculated based on the 3,957 total discharges in the DHCFP Case Mix Payer Source Fallon Linked Data Set.

Category 1

In the "Unexplainable" category, the hospital-reported payer source in the DHCFP case mix data seems to have no clear relationship to the Fallon plan reported in the Fallon claims data. In fact, no indication is given in the DHCFP case mix data that a Fallon plan is involved. This category includes any non-matches that do not fall under Category 2 through 7. In Category 1, the majority of DHCFP case mix discharges were reported in "Self-Pay", "Worker's Compensation" and other non-Fallon HMO plans, while Fallon claims show the involvement of some Fallon plan. There were a relatively small number of cases in the "Unexplainable" payer source category for Fallon, representing less than one percent of cases in both the non-matching data subset (0.9%) and in the total DHCFP Case Mix Payer Source Fallon Linked Data Set (0.15%).

Category 2

The "General Fallon Plan Selected" category is where hospitals reported the primary or secondary payer source as a general Fallon plan such as "Fallon HMO Plan" (Payer Source Code 4) or reported an imprecise Fallon payer source choice, although the more precise Fallon payer source was available on the DHCFP case mix payer source list. For instance, hospitals may have reported "Fallon HMO Plan" instead of reporting the more precise Fallon case mix payer source such as "Medicare HMO-Fallon Senior Care" or "Fallon Medicaid Managed Plan". The vast majority of Category 2 non-matches were related to a lack of precision in reporting "Fallon Medicare Managed Care" (60%) and "Fallon Medicaid Managed Care" (38%). For this category the primary payer source was mainly reported as "Fallon HMO Plan" (Payer Source Code 4). Overall, Category 2 type non-matches were the most frequent of the seven categories, accounting for almost 73% of all (638) Fallon non-matches.

Category 3

The "Fallon Plan Unlisted" category is where the Fallon payer source has no corresponding DHCFP payer source. This category does not apply to Fallon, since all three Fallon plans were listed on the DHCFP case mix payer source list.

Category 4

The "Primary and Secondary Payer Used" category is where hospitals unnecessarily used both the primary and secondary payer source fields to report one payer. Hos-

Selected Category 2 Reporting Differences

Case Mix Reported	Fallon Claims
Fallon HMO Plan	Fallon Medicare Managed Care
Fallon HMO Plan	Fallon Medicaid Managed Care
Medicare HMO - Fallon Senior Plan	Fallon HMO Plan

pitals reported an imprecise Fallon payer source code and then supplemented it with a second payer source code using both the primary and secondary payer sources, when the precise payer source was available on the DHCFP case mix list and one code could have been used to describe the payer.

This category includes cases where hospitals tried to report the managed care plans "Medicare HMO-Fallon Senior Plan" (Payer Source Code 125) and "Fallon Medicaid Managed Care" (Payer Source Code 108). Instead of reporting the precise Payer Source Code 125 or 108, hospitals reported "Fallon HMO Plan" (Payer Source Code 4) as the primary payer source and either "Medicare" (Payer Source Code 121) or "Medicaid" (Payer Source Code 103) as a supplemental secondary payer source.

All Category 4 non-matches were related to a lack of precision in reporting "Fallon Medicare Managed Care" (76%) and "Fallon Medicaid Managed Care" (24%). Overall, Category 4 type non-matches were the second most frequent of the seven categories, accounting for 14% of all (638) Fallon non-matches.

Category 5

The "Other HMO or Commercial Plan Used" category includes DHCFP case mix discharges whose payer source was reported as "Other" while none of the existing Fallon case mix payer sources were used. "Other HMO" or "Other Commercial" were the main "Other" categories used to report regular "Fallon HMO Plan." "Other HMO" was the main "Other" payer source category used to report "Fallon Medicare Managed Care" (Payer Source Code 125). Category 5 accounts for approximately six percent of all (638) Fallon non-matches.

Comparing Fallon Payer Source Review Matches to Non-Matches by Plan

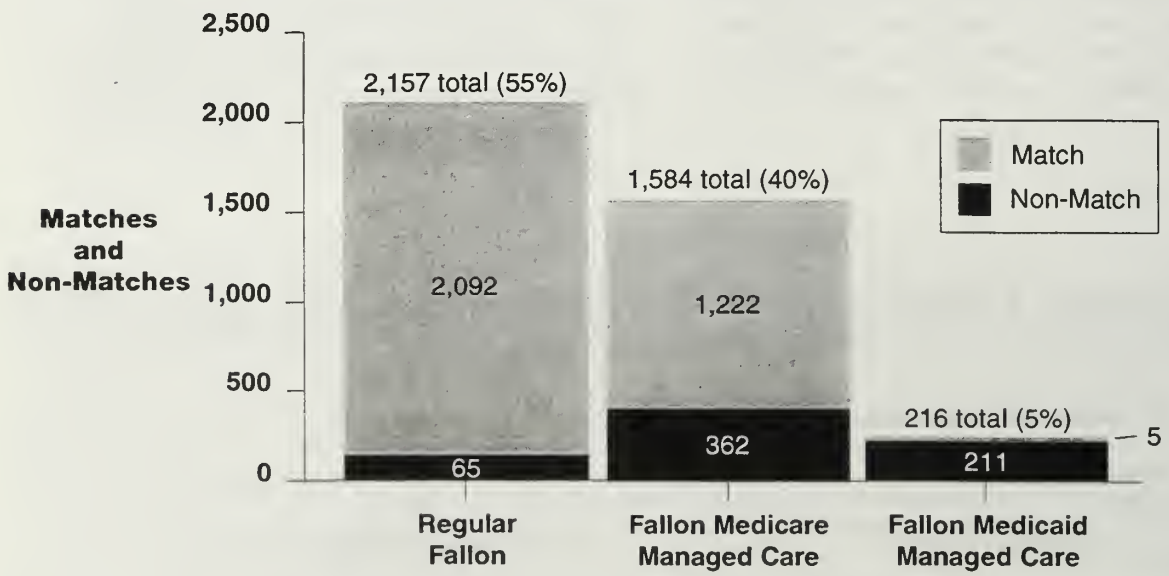

Figure 8 There were 638 payer source non-matches from the total 3,957 discharges in the Fallon data set.

Source: DHCFP Case Mix Payer Source Fallon Linked Data Set for 01/01/95 - 03/31/95

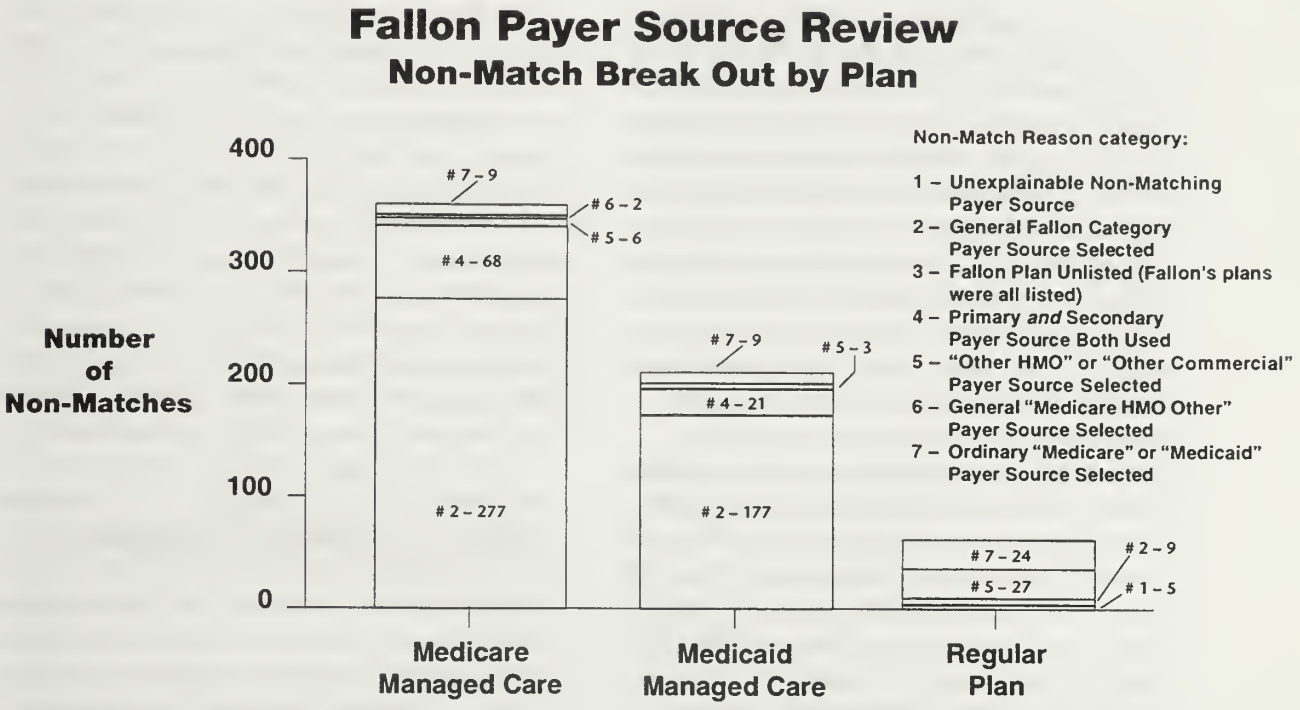

Figure 9 There were 638 Fallon claims which did not match hospital case mix payer source data. Non-matches are from 3,957 total discharges in the Fallon data set.

Source: DHCFP Case Mix Payer Source Fallon Linked Data Set for 01/01/95 - 03/31/95

Category 6

The "Medicare HMO Other" category includes DHCFP case mix discharges reported as "Other Medicare HMO" without indicating any Fallon plan. A DHCFP case mix data user would know that the discharge is from a Medicare managed care plan, but not from which specific plan. Only a small number of Fallon discharges were reported using the general category of "Medicare-HMO Other" (Payer Source Code 134), instead of using the more specific DHCFP case mix payer source "Medicare HMO-Fallon Senior Plan" (Payer Source Code 125). Category 6 accounts for less than one third of one percent (0.3%) of all Fallon non-matches.

Category 7

The "Medicare or Medicaid or Medicaid PCC Only" category includes discharges reported as ordinary "Medicare" or ordinary "Medicaid" or "Medicaid Managed Care Primary Care Clinician (PCC)" with no indication that these were Fallon HMO Plan discharges or Fallon Medicare Managed Care discharges or Fallon Medicaid Managed Care discharges. The majority of the cases in Category 7 related to the reporting of ordinary "Medicare" or ordinary "Medicaid" in the DHCFP case mix data. In most cases Medicare and Medicaid were relevant to the discharge, however a Fallon plan indicator was lacking. The more precise "Medicare HMO-Fallon Senior Plan" or "Fallon Medicaid Managed Care" plans were not selected. For regular "Fallon HMO Plan" under Category 7, "Medicare" was most often the payer source reported in the Division of Health Care Finance and Policy case mix data base. Overall, Category 7 accounts for approximately seven percent of all (638) Fallon Community Health Plan non-matches.

A comparison of the matching and non-matching DHCFP case mix payer source and Fallon discharges for each of the three Fallon plans is shown in Figure 8 on page 22. Regular Fallon HMO Plan non-matches represent 10% (65/638), Fallon Medicare Managed Care non-matches represent 57% (362/638), and Fallon Medicaid Managed Care non-matches represent 33% (211/638) of the total Non-Matching DHCFP Case Mix Payer Source Fallon Data Subset. The payer source non-matches for Fallon have been categorized in Figure 9 on page 23.

The non-matching rates were very high for Fallon Medicaid Managed Care and Fallon Medicare Managed Care. During the time period January 1, 1995 through March 31, 1995, only one hospital identified any patients as having Fallon Medicaid Managed Care and only two hospitals identified any patients as having Fallon Medicare Managed Care. The hospitals with the most significant non-matches were contacted in an effort to further evaluate any problem areas. Some hospitals stated they were unaware that Fallon had a Medicaid product.

Fallon Conclusions

Overall, the effort to link the Fallon data set to the DHCFP case mix data base was highly successful since approximately 94% of the 4,232 Fallon acute inpatient hospital claims submitted to the Division were successfully linked to the DHCFP case mix data for the quarter under study. This analysis was based on the resulting 3,957 records. The vast majority (84%) of the records showed an exact payer source match. Moreover, although all cases did not match exactly, further analysis revealed that almost all cases (98%) were still identifiable as Fallon patients in the DHCFP case mix data, though for various reasons hospitals may not have always selected the most precise Fallon payer source.

Detailed review of the total linked data set demonstrated that the majority of the non-matches were caused by lack of specificity in reporting payer source. However, since lack of specificity issues generally resulted in selection of a close choice, these non-matches were still identifiable as Fallon discharges. Payer sources identifiable as Fallon, but not the precise Fallon plan represented 14% of the total linked data set. In the vast majority of these identifiable Fallon cases, a general Fallon plan was reported in the DHCFP case mix data while a Medicare managed care or Medicaid managed care plan was found in the Fallon data set (Category 2). In a smaller portion of the Fallon identifiable cases, payer sources were imprecisely reported using both the primary and secondary DHCFP case mix payer source, particularly when attempting to describe the Fallon Medicare Managed Care and Fallon Medicaid Managed Care plans (Category 4). Thus, DHCFP case mix data users may want to examine both the primary and secondary payer source fields when using the payer source data, particularly the Medicare managed care and Medicaid managed care plan data.

Further review revealed that at least two percent of the total linked data set were unidentifiable as Fallon discharges. The majority of these unidentifiable Fallon cases were caused by reporting general payer source categories that were not Fallon plans. "Other HMO" and "Medicare" payer source categories were the predominant cases reported comprising the unidentifiable Fallon cases.

The results of the data analysis for the total DHCFP Case Mix Payer Source Fallon Linked Data Set are summarized below in order of importance:

- Fallon selected, but not the most precise plan—11.7%
- Fallon with use of primary payer source and secondary payer source—2.24%

- General categories/imprecise and not Fallon[2]—2.01%

- Unexplainable non-match[2]—0.15%

The analytical data comparison proved a useful pilot for the task force since the total linked data set was smaller in size and thus more manageable. The process developed for use in comparing Fallon data to DHCFP case mix data laid the groundwork for making similar comparisons with the data received from the other participating insurers.

Harvard Community Health Plan

Overview

Comparative review of Division of Health Care Finance and Policy (DHCFP) case mix payer source data with Harvard Community Health Plan (HCHP) claims data encompassed 6,401 records from 60 hospitals for the first quarter of 1995 (January 1, 1995 through March 31, 1995). Of the 60 hospitals in this DHCFP Case Mix Payer Source HCHP Linked Data Set, the top 25 HCHP volume hospitals are highlighted in Figure 10 below which shows the percent of HCHP discharges for each hospital. The majority of these 25 hospitals have less than 10% of their discharges attributed to HCHP, as determined upon review of the data in the linked data set. The remaining 35 hospitals each have less than one percent of their discharges for this quarter attributed to HCHP and thus are not displayed in Figure 10 below, although they are included in the HCHP analysis.

The effort to link the Harvard Community Health Plan data set to the DHCFP case

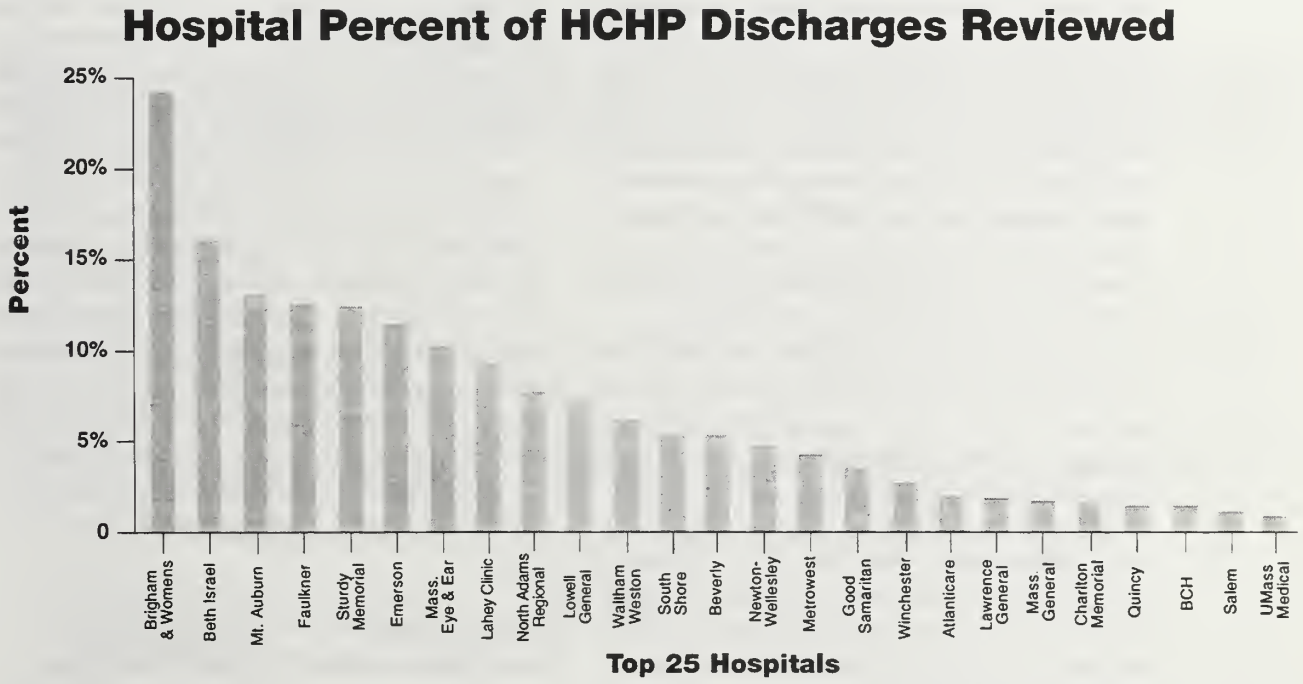

Figure 10 This chart presents the top 25 hospitals—out of 60 DHCFP Massachusetts Case Mix Hospitals—that had DHCFP discharges included in the analysis.

Source: DHCFP Case Mix Payer Source HCHP Linked Data Set for 01/01/95 - 03/31/95

mix data base was highly successful since 97% of the HCHP records submitted were successfully linked to the DHCFP case mix data for the quarter under study. The vast majority (85%) of the payers were an exact match. Moreover, although all cases did not match exactly, further analysis revealed that nearly all cases (96%) were still identifiable as HCHP patients in the DHCFP case mix data base, though for various reasons hospitals may not always have selected the most precise HCHP payer source.

Detailed comparison of the Harvard Community Health Plan claims data to DHCFP case mix data showed that the majority of the payer non-matches were either caused by reporting the HCHP plans as the general "Other HMO" category, or reporting imprecise HCHP plans in the DHCFP case mix data.[3] For 5.9% of the total DHCFP Case Mix Payer Source HCHP Linked Data Set, although an exact payer source match was not reported, a nearly accurate (closely related) HCHP plan was reported.[4] Nearly accurate payer sources were reported as a general or an imprecise HCHP plan, or were reported using the primary and secondary payer sources, one of which included an HCHP plan. For instance, instead of reporting the one specific payer source that most accurately describes the plan (i.e. "HCHP Medicare Managed Care"), a hospital may have reported "Medicare" as the primary payer source and "HCHP" as the secondary payer source.

An additional 5.4% of records in the total DHCFP Case Mix Payer Source HCHP Linked Data Set were considered to have accurate payer sources because the exact plans were unlisted for DHCFP case mix reporting, yet hospitals generally selected the most appropriate plans available. For example, "HCHP HMO Plan" was reported for the HCHP POS plan and "Medicare HMO-HCHP Senior Care" was reported for the HCHP Medicare wrap plans.[5]

Comparison of HCHP data to DHCFP case mix data also showed that 4.2 % of the discharges in the total linked data set offered no indication in the DHCFP case mix data that they were HCHP discharges. These discharges included cases reported as "Non-HCHP General" category payer sources (3.87%)[6] and "Unexplainable" non-matches (0.36%).[7] The non-matching data subset is categorized in Figure 14 on page 30.

Creation of the DHCFP Case Mix Payer Source HCHP Linked Data Set

Harvard Community Health Plan provided the Division with 6,597 HCHP acute hospital inpatient claims (from the first quarter of 1995) of which 6,401 discharges (97%) were successfully linked to the DHCFP case mix data. The DHCFP Case Mix Payer Source HCHP Linked Data Set is thus comprised of the 6,401 total discharges. The HCHP claims data were matched to DHCFP case mix data using the following data elements: hospital identification, encrypted member (patient) Social Security Number (encrypted by the Division of Health Care Finance and Policy), and admit date. Exact matches were found for 4,182 discharges. Subsequent criteria of date of birth, discharge date, and sex were used to generate 2,212 additional matches. These criteria provided unique matches for most HCHP patients, with the exception of 21 discharges that did not have matching discharge dates. Of these 21 discharges, seven had a discharge date variance of only one day and thus were used as a match in the DHCFP Case Mix Payer Source HCHP Linked Data Set; the remaining 14 records were not used in the analysis. These matching criteria led to the successful 97% record link rate.

Detailed Review of DHCFP Case Mix Payer Source HCHP Linked Data Set

HCHP was comprised of six unique plan categories during the quarter under study.

The original DHCFP case mix payer source list contained only four HCHP choices. Thus, the existing plans needed to be reviewed and equivalent plans determined in order to compare the DHCFP case mix discharges to the HCHP discharges within the linked data set. Below is a table showing equivalent plans between the HCHP data and DHCFP case mix data. As noted below, two newer HCHP categories (the HCHP POS Plan and HCHP wrap plans) did not have an exact match on the DHCFP case mix payer source list, and thus required a more extensive review.

The percent of discharges for each of the six HCHP plans in the DHCFP Case Mix Payer Source HCHP Linked Data Set is shown in Figure 11 on page 28. HCHP HMO Plan (Payer Source Code 1) accounts for the majority of the records in the linked data set (77%), followed by HCHP Medicare Managed Care with 10%. The HCHP POS and HCHP wrap plans had no correlating payer sources in the DHCFP case mix data, so the total count of discharges for these plans was based on the claims data from HCHP.

For the HCHP analysis, the primary and secondary DHCFP case mix payer sources were compared to the Harvard Community Health Plan data. This comparison resulted in a split of the DHCFP Case Mix Payer Source HCHP Linked Data Set into two data subsets for analysis—one consisting of the discharges where an exact payer source match was found between the linked DHCFP case mix data base and HCHP data set, and a second data subset of discharges where an exact match was not found. Other key variables from the HCHP claims data were reviewed further for the Non-Matching DHCFP Case Mix Payer Source HCHP Data Subset in order to identify any mis-classified discharges. Nine additional non-matching records were

Table of Equivalent HCHP Plans

HCHP Plans	Equivalent Case Mix Payer Source
1. HCHP HMO Plan	HCHP HMO Plan: Source Code 1
2. HCHP Medicare Managed Care (First Seniority and SeniorCare)	HCHP Medicare Managed Care: Source Code 126
3. HCHP Medicaid Managed Care	HCHP Medicaid Managed Care: Source Code 109
4. HCHP of New England	HCHP of New England: Source Code 20
5. HCHP Commercial-POS Plan (Added Choice)	None
6. HCHP Wrap Plans (Care Plus and Plan 65)	None

Case Mix – HCHP Data Set
Percent of Discharges for Six HCHP Plans

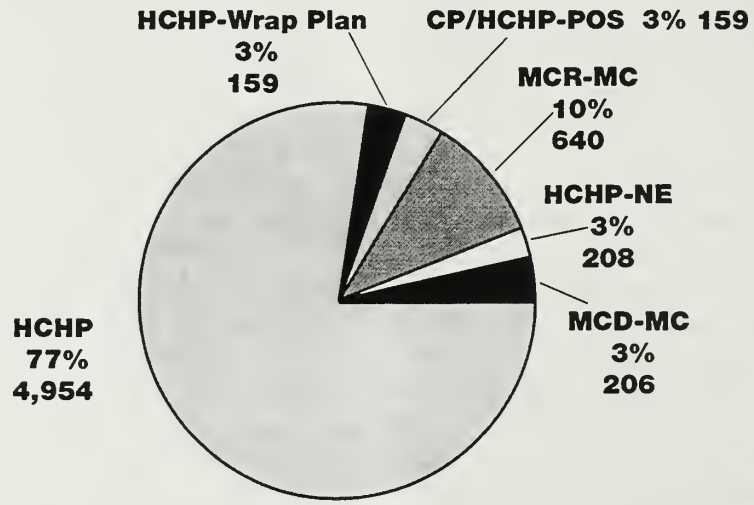

Figure 11 This chart is based on 6,401 HCHP Plan acute care discharges.

Source: DHCFP Case Mix Payer Source HCHP Linked Data Set for 01/01/95 - 03/31/95.

HCHP Claims vs. Hospital Case Mix
Payer Source Matches vs. Non-Matches

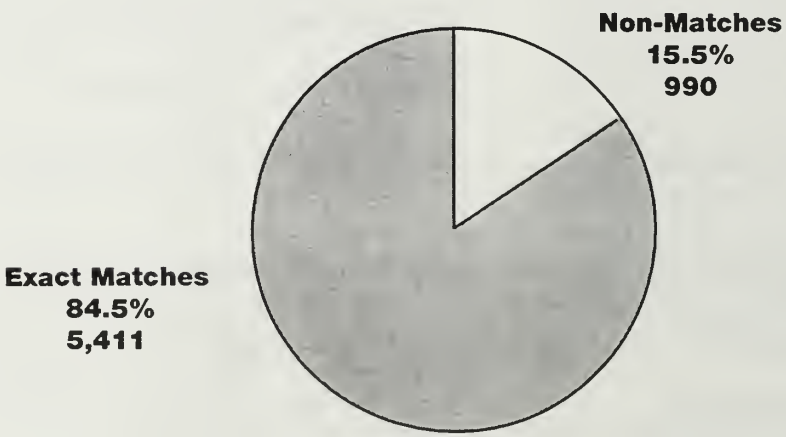

Figure 12 This chart is based on 6,401 HCHP Plan acute care discharges.

Source: DHCFP Case Mix Payer Source HCHP Linked Data Set for 01/01/95 - 03/31/95

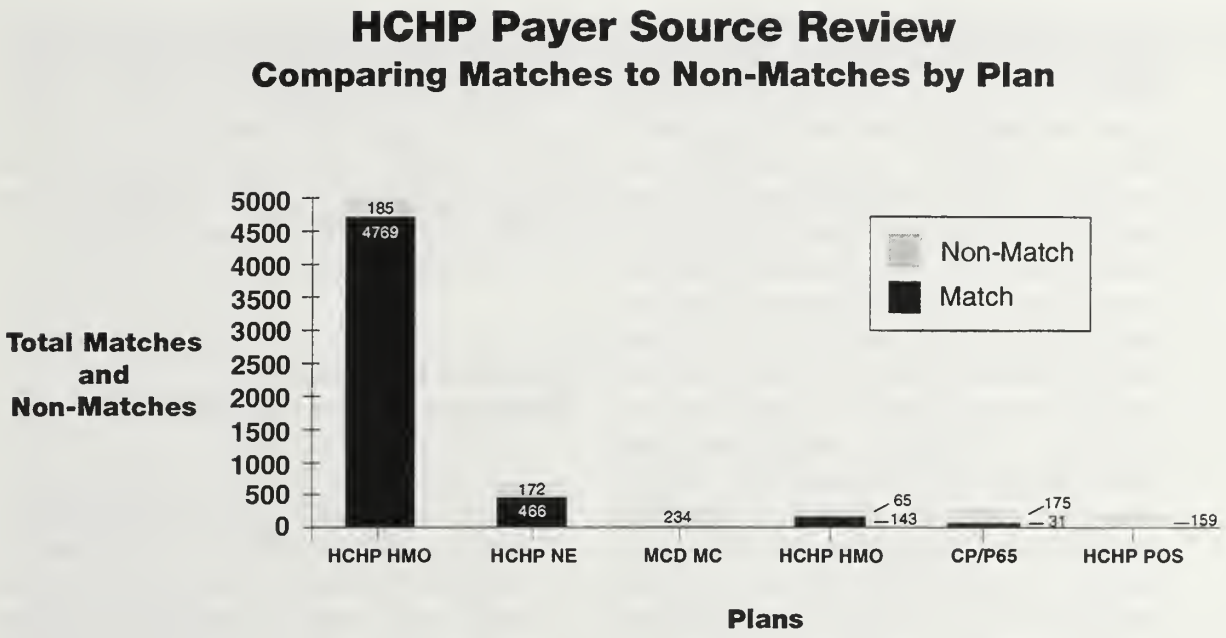

Figure 13 This chart is based on 6,401 HCHP Plan acute care dicharges.

Source: DHCFP Case Mix Payer Source HCHP Linked Data Set for 01/01/95 - 03/31/95.

discovered and were then reconciled resulting in the final number of discharges contained in the data subsets.

The Matching DHCFP Case Mix Payer Source HCHP Data Subset resulted in 5,411 discharges. The Non-Matching DHCFP Case Mix Payer Source HCHP Data Subset resulted in 990 discharges (see Figure 12 on page 28). A comparison of matches to non-matches for each of the six HCHP Plans is displayed in Figure 13 above. A summary table of the 990 non-matching cases for Harvard Community Health Plan is on page 31.

Review of Matching Payer Source Data Subset: HCHP Reported as a Secondary Payer

One aspect of the DHCFP case mix HCHP data analysis was to evaluate, if possible, the sequencing accuracy of hospital-reported DHCFP case mix payer sources. Sequencing was reviewed in an effort to determine whether hospitals were correctly reporting the primary versus the secondary payer. Specifically, the sequencing analysis for Harvard Community Health Plan involved determining if the reported HCHP secondary payer source for the DHCFP case mix data was actually the secondary payer, or if it should have been reported as the primary payer.

Review of the Matching DHCFP Case Mix Payer Source HCHP Data Subset showed that HCHP was reported as a secondary payer source for only 1.8% (99/5411) of the DHCFP case mix discharges. Since the HCHP claims information used for this analysis did not distinguish between HCHP as a primary payer and HCHP as a secondary payer, the Division of Health Care Finance and Policy was un-

able to substantiate HCHP as either the primary or secondary payer source using the HCHP data set. For the majority of the 99 cases, the primary payer source in the DHCFP case mix data base was reported as "Medicare" and the secondary payer source was reported as "HCHP" by 13 various hospitals, representing 69% (68/99) of secondary payer sources reviewed in the matching data subset. Of those, 62 discharges had birth dates prior to 1932 indicating that they were most likely Medicare eligible during this time period. The remaining six records had inconclusive information to determine whether the payer source was primary or secondary. The HCHP data seemed to indicate that these patients were HCHP HMO patients only, while the DHCFP case mix data indicated that they were a combination of Medicare and HCHP HMO plans. For the above mentioned 69%, the DHCFP case mix reported plans appeared to be accurate. For the total 99 discharges with "HCHP HMO Plan" reported as the DHCFP case mix secondary payer source, the Division of Health Care Finance and Policy was unable to confirm the validity of the patient's primary versus secondary payer status since additional corroborating information was unavailable.

Review of Non-Matching Payer Source Data Subset

Each of the six HCHP plans were reviewed at the discharge level in the Non-Matching DHCFP Case Mix Payer Source HCHP Data Subset. A comparison of Harvard Community Health Plan data to DHCFP case mix data is shown in Figure 14 below which also displays the percent of discharges with non-matching payer sources using seven

HCHP Claims versus Hospital Case Mix Data
Percent of Non-Matches, Break Out by Division Category

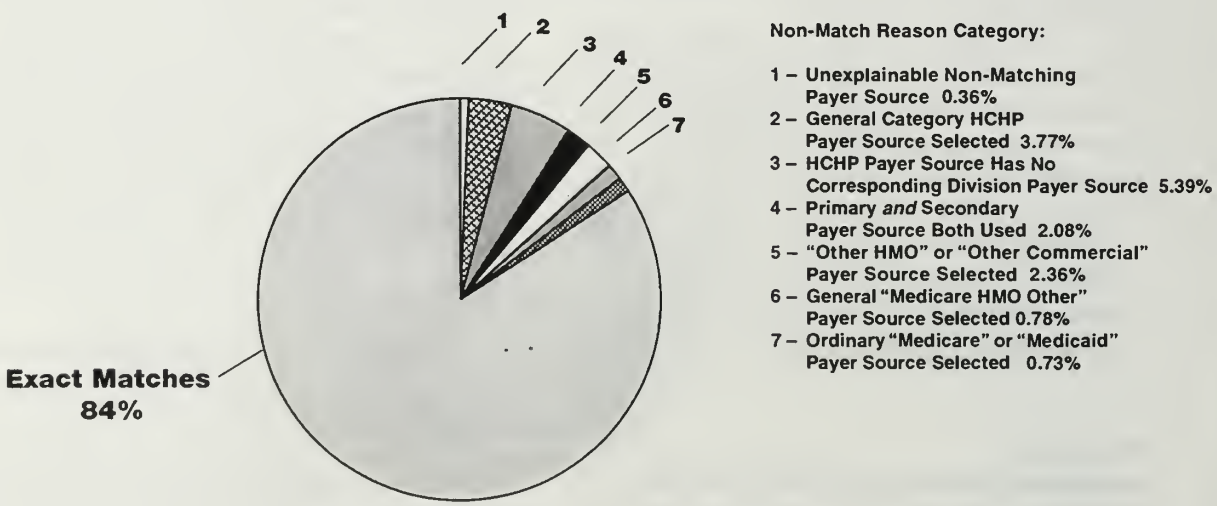

Figure 14 This chart is based on 990 non-matching cases for HCHP. Refer to the table on page 31 for specific numbers of non-matching HCHP cases.

Source: Non-Matching DHCFP Case Mix Payer Source HCHP Linked Data Subset for 01/01/95 – 12/31/95

990 Non-Matching Cases for HCHP *

Non-Match Reason	HCHP HMO	HCHP Medicare Managed Care	HCHP Medicaid Managed Care	HCHP of New England	HCHP POS	HCHP Wrap Plans	Total Cases	Percent of Total Data Set **
1. Unexplainable	*14	0	0	4	5	0	23	0.36
2. General HCHP Plan Selected	25*	68	91	57	0	0	241	3.77
3. HCHP Plan Unlisted	N/A	N/A	N/A	N/A	151	194	345	5.39
4. Primary and Secondary Payer Used	0	51	82	0	0	0	133	2.08
5. Other HMO or Commercial Plan Used	140**	6	1	1	3	0	151	2.36
6. Medicare HMO Other	0	34	0	0	0	16	50	0.78
7. Medicare or Medicaid	6 (MCR)	13	1 (MCD)	3 (MCR)	0	24	47	0.73
Totals	**185**	**172**	**175**	**65**	**159**	**234**	**990**	**15.50**

* *Table Key.* The data in the table above are classified based on the six plan types in the HCHP claims data set: the data represent the number of cases reported in the HCHP claims data for each plan type for which there was not an exact match in the DHCFP case mix data. The seven categories on the far left were developed to explain the reason for the non-match because there were differences in how the case mix data had payer reported for the same case or cases. For example, 14 cases were reported in the HCHP claims data as regular "HCHP HMO Plan," but were reported in the case mix data as another unrelated payer (such as "Self-Pay"), offering no indication of belonging to HCHP. Thus, these 14 cases fall into the "Unexplainable"category. The Non-Matching DHCFP Case Mix Payer Source HCHP Data Subset corresponding to the table above is displayed by category percent in Figure 14 on page 30 and by HCHP plan and category break out in Figure 15 on page 32.

** Percent calculated based on the 6,401 total discharges in the DHCFP Case Mix Payer Source HCHP Linked Data Set.

* One hospital reported 17 of the 25 discharges in this category.

** One hospital reported 115 of the 140 discharges in this category.

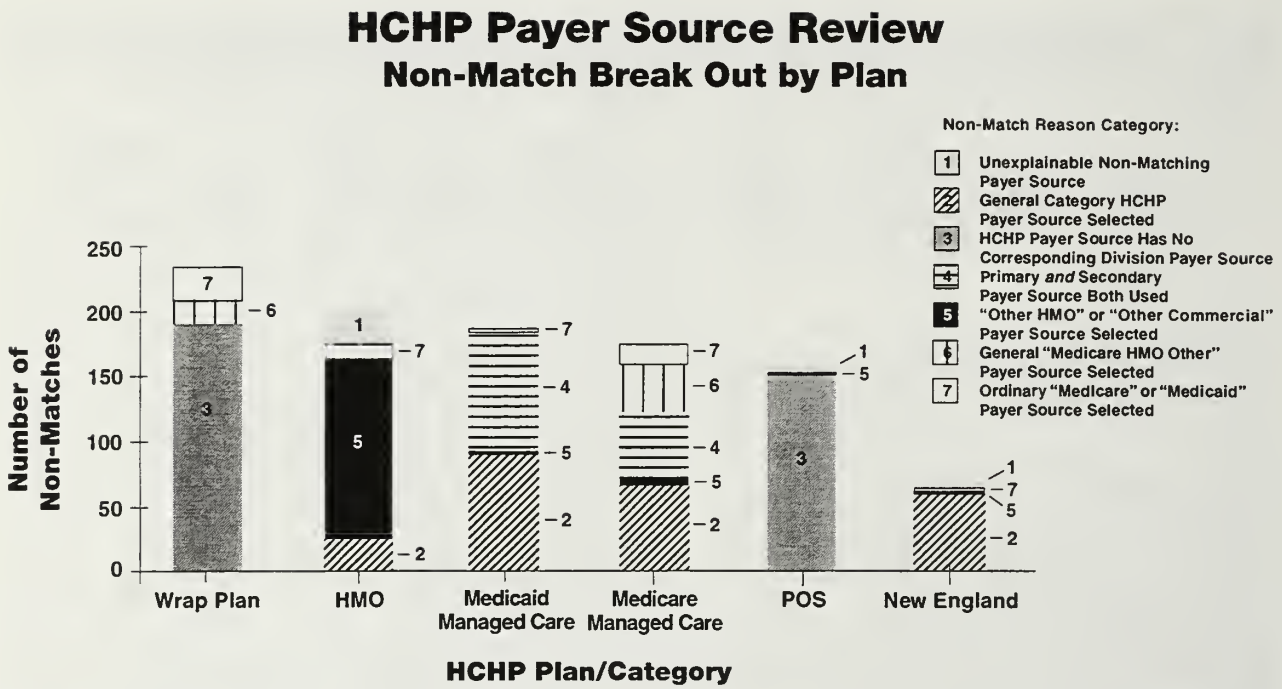

Figure 15 This chart is based on the 990 non-matching cases for HCHP claims versus case mix data broken out by the six HCHP plans. For precise non-match totals, see table on page 31.

Source: Non-Matching DHCFP Case Mix Payer Source HCHP Data Subset for 01/01/95 - 03/31/95.

broad categories. These categories were established based on the data analysis and were used in drawing conclusions for the detailed analysis of the 990 non-matching discharges.

Of note is that most of the non-matches could be explained and that "Unexplainable" non-matches accounted for only 0.36% of the total DHCFP Case Mix Payer Source HCHP Linked Data Set. The table of 990 non-matching Harvard Community Health Plan discharges is on page 31. The table key explains how to interpret the results. The seven non-matching categories are:

1. Unexplainable

2. General HCHP Plan Selected

3. HCHP Unlisted (payer source has no corresponding DHCFP payer source)

4. Primary and Secondary Payer Used (both payer sources were selected)

5. Other HMO or Commercial Plan Used (either payer source was selected)

6. Medicare HMO Other

7. Medicare or Medicaid Only (only one of these selected)

Category 1

In the "Unexplainable" payer source classification, the hospital-reported payer source in the DHCFP case mix data base seems to have no clear relationship to the HCHP plan reported in the HCHP claims data set. In fact, no indication is given in the DHCFP case mix data base that an HCHP plan is involved. This category includes any non-matches that do not fall under Category

2 through 7. In Category 1, the majority of DHCFP case mix discharges were reported in the "Self-Pay" payer source, while the HCHP claims showed the involvement of some type of HCHP plan. There was a relatively small number of cases in the "Unexplainable" payer source classification for HCHP, representing only two percent of cases in the non-matching data set and less than one percent of cases in the total linked data set.

Category 2

The "General HCHP Plan Selected" category wherein hospitals reported the primary or secondary payer source as a general HCHP plan such as "HCHP HMO Plan" (Payer Source Code 1) or an imprecise HCHP payer source choice, although the more precise HCHP payer source was available on the DHCFP case mix payer source list. For instance, hospitals may have reported "HCHP HMO Plan" instead of reporting the more precise HCHP case mix payer source such as "Medicare HMO-HCHP", "HCHP Medicaid Managed Care," or "HCHP of New England."

Of note for DHCFP case mix data users is that the majority (88%) of the 241 cases that were classified as Category 2 (General HCHP Plan Selected) had "HCHP HMO Plan" listed as the primary payer source in the DHCFP case mix data base. In the Category 2 cases where hospitals reported the HCHP payer source as the secondary DHCFP case mix payer source, 1% of cases had the designation "HCHP" and 2% had the designation "HCHP Senior Care." The majority of Category 2 non-matches were related to a lack of precision in reporting the HCHP Medicare Managed Care and the HCHP Medicaid Managed Care plans (66%). Overall, Category 2 type non-matches were the second most frequent of the seven categories, accounting for 24% of all (990) HCHP non-matches and 3.77% of the total linked data set.

Category 3

The "HCHP Plan Unlisted" category includes non-matches that were reported as a general HCHP or other specific (but imprecise) HCHP payer source choice because the precise HCHP plan was not available on the DHCFP case mix payer source list. Specifically, Category 3 includes the HCHP POS plan (Added Choice) and wrap plans (Care Plus and Plan 65). These two plans were isolated for review since the DHCFP case mix data did not have these HCHP plans listed as a choice for reporting.

Selected Category 2 Reporting Differences

Case Mix Reported	HCHP Claims
HCHP HMO Plan	HCHP Medicare Managed Care
HCHP of New England	HCHP HMO Plan
HCHP of New England	HCHP Medicare Managed Care
HCHP Senior Care	HCHP HMO Plan

After reviewing the reported results, the discharges reported as "HCHP" were considered accurate. HCHP was reported as the primary payer source in the DHCFP case mix data for 93% of the discharges in the POS plan. For the HCHP wrap plans, 83% in this category were reported in the DHCFP case mix data with "HCHP HMO Plan" or "HCHP Senior Care" as the secondary payer source and with a primary payer source of "Medicare." Thus, Category 3 includes cases where an HCHP designation is always indicated, but not the precise HCHP plan, because the precise plan choice was new or unlisted. Overall, Category 3 type non-matches were the most frequent of the seven categories, accounting for 35% of all (990) HCHP non-matches and 5.39% of the total DHCFP Case Mix Payer Source HCHP Linked Data Set.

Category 4

The "Primary and Secondary Payer Used" category is where hospitals unnecessarily used both the primary and secondary payer source fields to report one payer. Hospitals reported an imprecise HCHP payer source code and then supplemented it with a second payer source code using both the primary and secondary payer sources, when the precise payer source was available on the DHCFP case mix list and one precise code could have been used to describe the payer.

As shown in the table below, instead of selecting two payer sources ("HCHP HMO Plan" and "Medicare") to describe a Medicare managed care patient, the hospital should have reported the discharge under one more precise payer source code (i.e. Payer Source Code 126: HCHP Medicare Managed Care). Likewise, instead of using two different payer sources to describe a Medicaid managed care patient, the hospital should have reported the one payer source code that best describes the discharge. In the second example, instead of reporting two separate codes for both HCHP of New England and Medicaid, only Payer Source Code 109: HCHP Medicaid Managed Care was required.

This classification pattern where hospitals unnecessarily used both the primary and secondary DHCFP case mix payer source to report an HCHP Medicare Managed Care or HCHP Medicaid Managed Care plan discharge represented 5.2 % and 8.3% respectively of the 990 non-matching HCHP discharges, accounting for all cases in Category 4. For example, "Medicaid" was reported as the primary payer source and "HCHP" was reported as the secondary payer source, in-

Selected Category 4 Reporting Differences

Case Mix Hospital Reported Codes	HCHP Claims	Correct Case Mix Payer Source
HCHP HMO and Medicare	HCHP Medicare Managed Care	HCHP Medicare Managed Care: 126
HCHP of New England and Medicaid Codes	HCHP Medicaid Managed Care	HCHP Medicaid Managed Care: 109

stead of using the one specific DHCFP case mix payer source "HCHP Medicaid Managed Care" (Payer Source Code 109). Overall, Category 4 type non-matches accounted for approximately 13% of all (990) HCHP non-matches and 2.08% of the total DHCFP Case Mix Payer Source HCHP Linked Data Set.

Category 5

The "Other HMO or Commercial Plan Used" category includes DHCFP case mix discharges whose payer source was reported as "Other." In particular, "Other HMO," "Other Commercial" or "Other Non-Managed Care" was reported while none of the existing HCHP case mix payer sources were used. Of note is the reporting pattern for HCHP HMO Plan. One hospital reported the majority of its HCHP HMO Plan discharges in the "Other HMO" category in the DHCFP case mix data base instead of the more precise "HCHP HMO Plan" designation. This hospital's reporting pattern of using "Other HMO" represented 62% of the 185 cases where "HCHP HMO Plan" should have been reported. Thus, over-reporting of "Other HMO" was largely the reporting pattern of one hospital that has since been contacted. Overall, Category 5 type non-matches were the third most frequent of the seven categories, accounting for 15% of all (990) HCHP non-matches and 2.36% of the total DHCFP Case Mix Payer Source HCHP Linked Data Set.

Category 6

The general "Medicare HMO Other" category includes DHCFP case mix discharges reported as "Medicare HMO" without indicating any HCHP plan. A DHCFP case mix data user would know that the discharge is from a Medicare managed care plan, but not from which specific plan. In Category 6, the majority of HCHP discharges were reported using the general category of "Medicare-HMO Other" (Payer Source Code 134), instead of using the more specific DHCFP case mix payer source "Medicare HMO-HCHP Senior Care" (Payer Source Code 126).

Of the 172 cases that should have been reported under the "HCHP-Medicare Managed Care" category (see HCHP non-match table on page 37), 20% were reported as "Medicare HMO Other." Of interest to DHCFP case mix data users is that discharges reported using "Medicare HMO Other" instead of "HCHP Medicare HMO Plan" represent a relatively small percentage of the total DHCFP Case Mix Payer Source HCHP Linked Data Set at 0.5% and only 3.4% of the HCHP non-matching data subset. Overall, Category 6 type non-matches accounted for five percent of all (990) HCHP non-matches and less than one percent of the total DHCFP Case Mix Payer Source HCHP Linked Data Set.

One reason hospitals may have reported more "Medicare HMO Other" for HCHP instead of a more specific payer source code is that the Division originally listed only one HCHP Medicare HMO choice: "HCHP Medicare Managed Care" (Payer Source Code 126) as a payer source. HCHP "First Seniority" and HCHP "Senior Care" were not options on the original payer source list. Because HCHP member identification cards list the names of both "First Seniority" and "Senior Care," hospitals may have attempted to select these Medicare products, but not finding the specific name on the list, selected "Medicare HMO Other" as the closest alternative. Of note to DHCFP case mix data users is that the revised payer list now accounts for these new plans.

Category 7

The "Medicare or Medicaid Only" category includes discharges incompletely reported as ordinary "Medicare" or ordinary "Medicaid"; there is no indication that these are managed care plan discharges. In most cases Medicare and Medicaid were relevant to the discharge, however, an HCHP plan indicator was lacking. For example, HCHP Medicare Managed Care discharges or HCHP

wrap plan discharges were reported as ordinary "Medicare." Although relatively small in number, the majority of cases in Category 7 were reported for both the HCHP Medicare Managed Care Plan and for the HCHP wrap plans, with only 13 and 24 records respectively. Overall, Category 7 type non-matches accounted for just under 5% of all (990) HCHP non-matches and less than one percent of the total DHCFP Case Mix Payer Source HCHP Linked Data Set.

HCHP Medicare Managed Care and HCHP Medicaid Managed Care Review

Over the past few years, there has been growing data user interest in the validity of reporting Medicare and Medicaid managed care for the DHCFP case mix data base. Because Medicare and Medicaid traditionally have not been associated with managed care, DHCFP case mix data users have been interested in knowing the validity of reporting for these more recent government managed care plans. Thus, the purpose of this section is to provide more detail on DHCFP case mix reporting by hospitals in this area.

This section looks at the following two HCHP plans in detail: Medicare HMO-HCHP Senior Care (Payer Source Code 126) and HCHP Medicaid Managed Care (Payer Source Code 109). A detailed profile table of the HCHP Medicare Managed Care and HCHP Medicaid Managed Care non-matches is shown on page 37. Two larger groupings noted on the left side of the table were used to summarize details contained in the DHCFP categories used for the managed care review. These two groupings are: 1) Identifiable—Identifiable, Imprecise HCHP or General HCHP, and 2) General—General Payer Sources Selected.

The majority of non-matches for these HCHP Medicare Managed Care and HCHP Medicaid Managed Care plans were a result of using payer sources included in the grouping "Identifiable HCHP Payer Sources." These identifiable HCHP payer sources were reported using both the primary and secondary DHCFP case mix payer sources, or were a result of using only the HCHP HMO payer source. These two reporting patterns caused 84% of the HCHP Medicare Managed Care and HCHP Medicaid Managed Care plan non-matches. It is important to note that the HCHP Medicare Managed Care and HCHP Medicaid Managed Care plan discharges were still clearly identifiable as Harvard Community Health Plan discharges by using the primary payer source, or were identifiable as HCHP and Medicaid, or HCHP and Medicare, by using the primary and secondary DHCFP case mix payer sources. Thus, users of the DHCFP case mix data should look at both the primary and secondary payer fields when using the payer source data.

The "General" payer source grouping included records reported as "Medicare HMO," ordinary "Medicare," ordinary "Medicaid," or "Other" payer sources instead of using an HCHP plan. These general payer source cases were less noteworthy in comparison to the identifiable payer source cases accounting for less than 1% (0.8%) of the total DHCFP Case Mix Payer Source HCHP Linked Data Set and only 55 cases of the non-matching HCHP Medicare Managed Care and HCHP Medicaid Managed Care plan discharges. HCHP Medicare Managed Care and HCHP Medicaid Managed Care plan non-matches are shown on page 37.

HCHP Conclusions

Overall the effort to link the Harvard Community Health Plan data set to the DHCFP case mix data was highly successful since 97% of the HCHP records submitted were successfully linked to the DHCFP case mix data for the quarter under study. The vast majority (85%) of the payers were an exact match. Of those that did not match

347 HCHP Medicare & Medicaid Non-Matches *

Case Mix-HCHP Medicare and Medicaid Managed Care Data Review Set		HCHP Medicare Managed Care	Percent of Case Mix-HCHP Data Set		HCHP-Medicaid Managed Care	Percent of Case Mix-HCHP Data Set	
			Percent of HCHP Managed Care **	Percent of Total		Percent of HCHP Managed Care **	Percent of Total
Identifiable, Imprecise HCHP or General HCHP	Identifiable Using Primary and Secondary Case Mix Payer Source [a]	51	6.00%	0.80%	82	9.70%	1.30%
	Identified as HCHP [b]	68	8.10%	1.10%	91	10.80%	1.40%
General Payer Sources Selected	Identified as MCR HMO [c]	34	4.00%	0.50%	0	0	0
	Identified only as MCR or MCD [d]	13	1.50%	0.20%	1	0.10%	0.02%
	Use of Other [e]	6	0.70%	0.09%	1	0.10%	0.02%
Total HCHP MCR or MCD Managed Care Non-Matches		**172**	**20.30%**	**2.70%**	**175**	**20.7%**	**2.7%**

* *Table Key.* The data in this table are classified based on two of the six plan types in the Harvard claims data set: HCHP Medicare Managed Care and HCHP Medicaid Managed Care. The data represent the number of cases reported in the Harvard claims data for each of the two plan types for which there was not an exact match in the case mix data. The categories on the left were developed to explain the reason for the non-match because there were differences in how the DHCFP case mix data reported the payer for the same case or cases. For example, 51 cases were reported in the Harvard claims data set as HCHP-Medicare, but were reported in the case mix data base by using both the primary and secondary payer fields (such as "HCHP HMO Plan" and ordinary "Medicare") to indicate the record belonged to HCHP. Thus, these 51 cases are identifiable as HCHP, but fall into the imprecise or general HCHP category.

** Percent of HCHP-Medicare and HCHP -Medicaid Managed Care 845 represents all HCHP managed care discharges contained within the total DHCFP Case Mix Payer Source HCHP Linked Data Set (6401).

[a] Corresponds to non-match Category 4; [b] Corresponds to non-match Category 2; [c] Corresponds to non-match Category 6; [d] Corresponds to non-match Category 7; [e] Corresponds to non-match Category 5.

exactly, further analysis revealed that nearly all (96%) were identifiable as Harvard Community Health Plan patients, though for various reasons hospitals may not have always selected the most precise HCHP payer source.

Detailed review of the DHCFP Case Mix Payer Source HCHP Linked Data Set demonstrated that the majority of the non-matches were caused by lack of specificity in hospital reporting of payer source. However, since lack of specificity errors generally resulted in selection of a close runner up, these non-matches were still identifiable as Harvard Community Health Plan patients. Payer sources that were identifiable as HCHP, but were not the specific HCHP plan represented 5.9% of the total DHCFP Case Mix Payer Source HCHP Linked Data Set. A large portion of these HCHP identifiable cases were payer sources that were improperly reported using both the primary and secondary DHCFP case mix payer source particularly when attempting to describe the HCHP Medicare Managed Care and HCHP Medicaid Managed Care plans. Thus, DHCFP case mix data users should look at both the primary and secondary payer fields when using the payer source data.

Further review of the DHCFP case mix records revealed that only 4.2% of the total DHCFP Case Mix Payer Source HCHP Linked Data Set could not be identified as Harvard Community Health Plan discharges. The majority of these unidentifiable HCHP cases were caused by reporting general payer source categories that were not representative of HCHP plans. Of that 4.2%, one hospital reported the majority of its discharges as "Other HMO" (Payer Source Code 148), representing nearly half of these unidentifiable HCHP discharges. The unidentifiable HCHP discharges would have been only 2.4% without the "Other HMO" discharges of this one hospital. This hospital's "Other HMO" non-matches account for 1.8% of the 4.2% unidentifiable HCHP discharges. Thus, there was a particular problem with one hospital that was not reflective of the DHCFP case mix data base as a whole.

The results of the data analysis for the total DHCFP Case Mix Payer Source HCHP Linked Data Set are summarized below in order of importance:

- HCHP selected, but precise choice unavailable as was new or unlisted plan—5.4%
- HCHP selected, but not most accurate or precise plan choice—3.77%
- HCHP with use of primary payer source and secondary payer source—2.08%
- General categories/imprecise and not HCHP[8]—3.87%
- Unexplainable non-match[8]—0.36%

As noted above, an issue that surfaced during the analysis was hospital DHCFP case mix reporting of new or unlisted HCHP plans. In cases where the Division of Health Care Finance and Policy did not have the specific plan listed as a choice for DHCFP case mix reporting, the majority of discharges were reported either as "HCHP HMO Plan" (Payer Source Code 1) or were reported with the closest fit of HCHP plans listed. For example, unlisted categories of HCHP "Care Plus" and "Plan 65" were typically reported as "Medicare HMO-HCHP Senior Care" (Payer Source Code 126). Although HCHP was identifiable as the payer source in these cases, "Added Choice", "Care Plus" and "Plan 65" were not available for reporting for 5.4% of the total DHCFP Case Mix Payer Source HCHP Linked Data Set due to technical constraints. These three plans have since been added as payer sources as a direct result of the baseline Division of Health Care Finance and Policy case mix data analysis.

Medicaid

Overview

The review of DHCFP case mix data payer source as compared to Medicaid data included 57,234 records for two quarters of 1994 (January 1, 1994 through June 30, 1994) which was the most current data available at the time of this analysis. The effort to link the Medicaid enrollee data set to the DHCFP case mix data base was successful since 88% of the Medicaid case mix records were successfully linked to the Medicaid enrollee data for the two quarters under study. The majority (69.4%) of the payers were an exact match. Moreover, although all cases did not match exactly, further analysis revealed that nearly all cases (98%) were still identifiable as Medicaid patients in the DHCFP case mix data base, though for various reasons hospitals may not have always selected the most precise Medicaid payer source.

Detailed comparison of the Medicaid enrollee data to the DHCFP case mix data showed that the majority of the payer non-matches were caused by classification of the Medicaid managed care plans into the ordinary "Medicaid" category, or classification into imprecise combinations of HMO plans and Medicaid. For 28.9% of total DHCFP Case Mix Payer Source Medicaid Linked Data Set, an exact payer source match was not reported, however, a nearly accurate (closely related) Medicaid plan or Medicaid managed care plan was reported. Nearly accurate payer sources were either reported as a general or imprecise Medicaid plan or Medicaid managed care plan or were reported using the primary and secondary payer sources, one of which included a Medicaid plan. For instance, instead of reporting the one specific payer source that most accurately describes the plan (ie. Medicaid Managed Care Neighborhood Health Plan), a hospital may report Neighborhood Health Plan or a specific HMO plan as the primary payer source and Medicaid as the secondary payer source.

Comparison of Medicaid data from the Massachusetts Division of Medical Assistance (DMA) to the DHCFP case mix data also showed that 1.2%[9] of the discharges in the total DHCFP Case Mix Payer Source Medicaid Linked Data Set offered no indication in the DHCFP case mix data that they were Medicaid discharges and 0.5%[10] offered no indication in the DHCFP case mix data that they were Medicaid discharges or Medicaid managed care discharges (see Figure 17 on page 43). These discharges included cases reported as non-Medicaid general category payer sources (0.6%), and "Unexplainable" non-matches (1.1%). The Non-Matching DHCFP Case Mix Payer Source Medicaid Data Subset has been categorized in Figure 17 on page 43.

Creation of the DHCFP Case Mix Payer Source Medicaid Linked Data Set

A more complex process was required to generate the Medicaid data base used for comparison. Unlike the other payers, the Division of Medical Assistance (DMA) did not have information listing acute hospital Medicaid discharges. Instead, DMA was able to provide the Division with only their list of plan enrollees. Therefore, DHCFP case mix data was matched to Medicaid enrollee data rather than Medicaid claims matched to DHCFP case mix data.

In the two quarters of 1994 DHCFP case mix (January 1, 1994 through June 30, 1994), there were 82,401 discharges with Medicaid listed as a primary or secondary payer type or source for an acute care hospital. The variable used to link these DHCFP case mix discharges to the Medicaid enrollee data was the DHCFP encrypted Social Security Number (SSN). Of the 82,401 discharges, only 64,896 discharges had a valid encrypted Social Security Number which could be used to match the data and were acute hospital discharges from hospitals still open in 1996

Medicaid Data versus Hospital Case Mix Data
Payer Source Matches versus Non-Matches

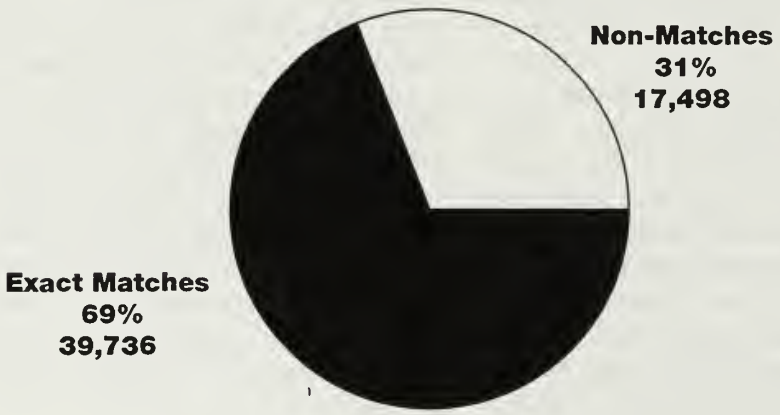

Figure 16 This chart is based on 57,234 Medicaid discharges.

Source: DHCFP Case Mix Payer Source Medicaid Linked Data Set for 01/01/94 - 06/30/94

(non-acute hospitals or closed hospitals were removed from the 82,401 discharges).[11] An exact match was found for 58,864 discharges. From those discharges, 1630 discharges were removed since the Medicaid enrollee data did not distinguish admissions from eligibility records. Therefore, 57,234 discharges which had all of the previous criteria plus a specific and definitive Medicaid plan listed in the Medicaid records led to a successful 88% link rate and were used for this analysis.

Detailed Review of DHCFP Case Mix Payer Source Medicaid Linked Data Set

Medicaid was comprised of four unique plan categories during the quarters under study. The original DHCFP case mix payer source list contained eighteen Medicaid choices. Thus, the existing plans needed to be reviewed and equivalent plans determined in order to compare the DHCFP case mix discharges to the Medicaid records within the linked data set. The table on page 41 shows equivalent plans between the Medicaid data and the DHCFP case mix data.

As part of the DHCFP analysis, the primary and secondary DHCFP case mix payer sources were compared to the Medicaid data. This comparison resulted in a split of the DHCFP Case Mix Payer Source Medicaid Linked Data Set into two data subsets: one consisting of the discharges where an exact payer source match was found between the linked DHCFP case mix and Medicaid data, and a second data subset consisting of discharges where an exact match was not found. The Matching DHCFP Case Mix Payer Source Medicaid Data Subset resulted in 39,736 discharges. The Non-Matching DHCFP Case Mix Payer Source Medicaid Data

Subset resulted in 17,498 discharges (see Figure 16 on page 40). Please see the summary table on page 42 for more information about the non-matching discharges.

Review of Non-Matching Payer Source Data Subset

Each of the four Medicaid plans were reviewed at the discharge record level in the Non-Matching DHCFP Case Mix Payer Source Medicaid Data Subset. Comparison of Medicaid data to the DHCFP case mix data is shown in Figure 17 on page 43 which displays the percent of discharges with non-matching payer sources by DHCFP category. Nine broad categories or reasons for non-matching payers were established based on the data analysis and were used in drawing conclusions for this detailed analysis of the 17,498 non-matching Medicaid discharges. Seven of these broad categories were consistent with the categories used for the other payer analyses. Category 6 was modified for the Medicaid analysis and includes "Medicaid HMO Other" versus "Medicare HMO Other" that was used as the criteria for the other payer analyses. Two new categories were added to further delineate areas applicable to the Medicaid data analysis. Of note is that most of the non-matches could be explained and that "Unexplainable" non-matches accounted for only 1.7% of the total DHCFP Case Mix Payer Source Medicaid Linked Data Set.

The table of 17,498 non-matching Medicaid discharges is on page 42. The table key demonstrates how to interpret the table results. The nine categories included are:

1. Unexplainable
2. General Medicaid Plan Selected
3. Medicaid Plan Unlisted (payer source has no corresponding DHCFP payer source)

Table of Equivalent Medicaid Plans

Medicaid Plans	Equivalent Case Mix Payer Source
1. Medicaid	Medicaid: Source Code 103 Medicaid-Out-of-State: Source Code 120
2. Medicaid Elder Care	None
3. Medicaid Managed Care	Medicaid Managed Care: Source Code 105-119
4. Medicaid Managed Care Primary Care Clinician (PCC)	Medicaid Managed Care-PCC: Source Code 104

17,498 Non-Matching Cases for Medicaid *

Non-Match Reason	Medicaid	Medicaid Elder Plan	Medicaid Managed Care **	Medicaid PCC	Total Cases	Percent of Total Data Set ***
1. Unexplainable	346	0	57	221	624	1.10%
2. General Medicaid Plan Selected	29 (all PCC)	0	722	12,781	13,532	23.64%
3. Medicaid Plan Unlisted	0	7	0	0	7	0.01%
4. Primary and Secondary	0	0	1816	0	1816	3.17%
5. Other HMO or Commercial	43	0	0	0	43	0.08%
6. Medicaid HMO Other	64	0	18	969	1051	1.84%
7. Medicare Only	295	0	0	0	295	0.52%
8. Medicaid Managed Care HMO Plan on Case Mix vs. Medicaid	29	0	40	53	122	0.21%
9. HMO Plan on Case Mix vs. Medicaid Managed Care	0	0	8	0	8	0.01%
Totals	806	7	2,661	14,024	17,498	30.58%

* *Table Key.* The data in the table above are classified based on the four plan types in the Medicaid enrollee data set. The data represent the number of cases reported in the Medicaid enrollee data for each plan type for which there was not an exact match in the DHCFP case mix data base. The nine categories on the far left were developed to explain the reason for the non-match because there were differences in how the case mix data reported the payer for the same case or cases. For example, 346 cases were reported in the Medicaid enrollee data as regular "Medicaid," but were reported in the case mix data as another unrelated payer (such as "Fallon"), offering no indication of belonging to Medicaid. Thus, these 346 cases fall into the "Unexplainable" category. The non-matches corresponding to the table above are displayed by category percent in Figure 17 on page 43 and by Medicaid plan and category break out in Figure 18 on page 48.

** Can refer to non-matching Medicaid managed care specific plans.

*** Percent calculated based on the 57,234 discharges in the DHCFP Case Mix Payer Source Medicaid Linked Data Set.

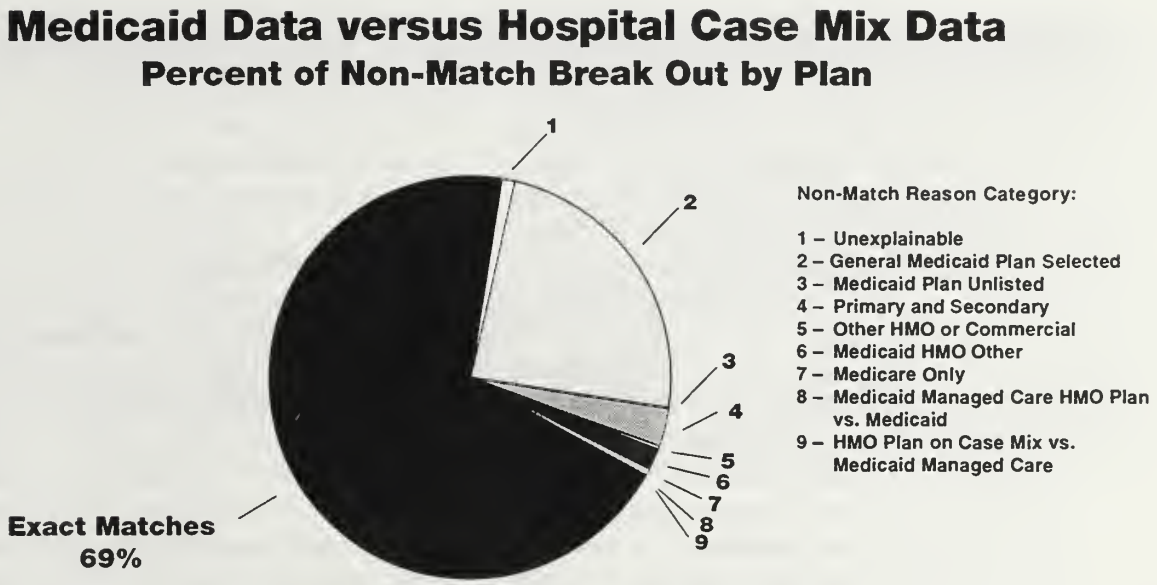

Figure 17 This chart is based on the 17,498 non-matching cases for Medicaid. Refer to the table of non-matching cases for Medicaid for specific numbers on page 42.

Source: Non-Matching DHCFP Case Mix Payer Source Medicaid Data Subset for 01/01/94 - 06/30/94

4. Primary and Secondary Payer Used (both payer sources were selected)

5. Other HMO or Commercial Plan Used (either payer source was selected)

6. Medicare HMO Other

7. Medicare Only

8. Medicaid Managed Care HMO Plan in DHCFP Case Mix Data versus Medicaid

9. HMO Plan on DHCFP Case Mix Data versus Medicaid Managed Care

Category 1

The "Unexplainable" payer source classification is one where the hospital-reported payer source in the DHCFP case mix data seems to have no clear relationship to the Medicaid plan reported in the Medicaid data set. In fact, no indication is given in the DHCFP case mix data that a Medicaid plan is involved. This category includes any non-matches that do not fall under Category 2 through 9. In Category 1, the majority of DHCFP case mix discharges were reported in individual HMO or POS plan payer sources, mainly the "Network Blue" and "Fallon" payer sources, while the Medicaid data showed the Medicaid plan or Medicaid PCC plan. Generally, there was a small number of cases in the "Unexplainable" payer source category for Medicaid, representing only 3.6% of cases in the Non-Matching DHCFP Case Mix Payer Source Medicaid Data Subset and 1.1% of cases in the total linked data set.

Category 2

The "General Medicaid Plan Selected" category where hospitals reported the pri-

Some Category 2 Reporting Differences

Case Mix Reported	Medicaid Data
Medicaid Managed Care Primary Care Clinician (PCC)	Medicaid
Medicaid	Neighborhood Health Plan Medicaid Managed Care
Medicaid	Medicaid Managed Care PCC

mary or secondary payer source as Medicaid Managed Care Primary Care Clinician (PCC) (Payer Source Code 104) or as the general Medicaid plan (Payer Source Code 103), although the more precise Medicaid payer source was available on the DHCFP case mix payer source list. In Category 2, records for the Medicaid plan were all reported as "Medicaid Managed Care PCC" in the DHCFP case mix data base and records for the Medicaid Managed Care Plan and Medicaid Managed Care PCC were reported as "Medicaid" in the DHCFP case mix data. For instance, hospitals may have reported ordinary "Medicaid" instead of reporting the more precise Medicaid managed care HMO DHCFP case mix payer source (i.e. "Neighborhood Health Plan Medicaid Managed Care", "HCHP Medicaid Managed Care," or "HMO Blue Medicaid Managed Care").

The majority of Category 2 non-matches were related to a lack of precision in reporting "Medicaid Managed Care PCC" (22%) and "Medicaid Managed Care" (1.3%). Overall, Category 2 type non-matches were the most frequent of the nine categories, accounting for 77% of all (17,498) Medicaid non-matches and 23.6% of the total linked data set.

Category 3

The "Medicaid Plan Unlisted" category includes non-matches that were reported as general "Medicaid" because the precise "Medicaid Elder Plan" was not available on the DHCFP case mix payer source list. Since the DHCFP case mix data did not have the Medicaid Elder Plan listed as a choice for reporting, after review of the reported results, the discharges that were reported as Medicaid were considered accurate. Thus, Category 3 includes cases where an Medicaid designation is always indicated, but not the precise Medicaid plan, as the precise plan choice was new or unlisted. Overall, Category 3 type non-matches were insignificant with only seven cases reported.

Category 4

The "Primary and Secondary Payer Used" category is where hospitals unnecessarily used both the primary and secondary payer source fields to report one payer plan. Category 4 affected only the Medicaid managed care reporting. Hospitals reported an imprecise DHCFP case mix HMO payer source code and then supplemented it with a second payer source code using both the payer source and secondary payer sources, when

the precise payer source was available on the DHCFP case mix list and one precise code could have been used to describe the payer. All records, except for five, had the HMO plan listed as the primary payer source and Medicaid listed as the secondary payer source in the DHCFP case mix data.

In the example below, instead of selecting two payer sources (Neighborhood Health Plan HMO and Medicaid) to describe a Medicaid managed care patient, the hospital should have reported the discharge under one more precise payer source code (i.e. Payer Source Code 113: Neighborhood Health Plan Medicaid Managed Care).

This classification pattern where hospitals unnecessarily used both the primary and secondary DHCFP case mix payer source to report a Medicaid managed care plan accounted for 10.4% of the 17,498 non-matching Medicaid discharges, accounting for all cases in Category 4. Overall, Category 4 type represented the second largest non-match category and accounted for approximately 3.2% of the total DHCFP Case Mix Payer Source Medicaid Linked Data Set.

Category 5

The "Other HMO or Commercial Plan Used" category includes DHCFP case mix discharges whose payer source was reported as "Other." In particular, "Other HMO," "Other Commercial" or "Other Non-Managed Care" was reported while none of the existing Medicaid DHCFP case mix payer sources were used. The majority of cases were reported as "Other Non-Managed Care." Overall, Category 5 type non-matches were relatively insignificant.

Category 6

The general "Medicaid HMO Other" category includes DHCFP case mix discharges reported as "Medicaid Managed Care Other" without indicating the specific Medicaid or Medicaid managed care plan. A DHCFP case mix data user would know that the discharge is from a Medicaid managed care plan, but not which specific plan. In Category 6, the majority of Medicaid discharges were reported using the general category "Medicaid Managed Care Other" (Payer Source Code 119), instead of using the more specific DHCFP case mix payer source "Medicaid Managed Care Primary Care Clinician" (Payer Source Code 104). Category 6 is the third largest non-match category at six percent of all (17,498) Medicaid non-matches and less than two percent of the total DHCFP Case Mix Payer Source Medicaid Linked Data Set.

Selected Category 4 Reporting Differences

Case Mix Hospital Reported Codes	Medicaid Data	Correct Case Mix Payer Source
Neighborhood Health Plan HMO and Medicaid: Codes 47 and 103	Neighborhood Health Plan Medicaid Managed Care	Neighborhood Health Plan Medicaid Managed Care: 113
HCHP and Medicaid: Codes 1 and 103	HCHP Medicaid Managed Care	HCHP Medicaid Managed Care: 109

Category 7

The "Medicare Only" category includes discharges incompletely reported as ordinary "Medicare" and there is no indication that these are Medicaid plan discharges. Overall, Category 7 type non-matches accounted for just under two percent of all (17,498) Medicaid non-matches and less than one percent of the total DHCFP Case Mix Payer Source Medicaid Linked Data Set.

Category 8

The "Medicaid Managed Care HMO Plan in DHCFP Case Mix Data versus Medicaid" category includes discharges reported as a specific Medicaid managed care HMO plan. A DHCFP case mix data user would know that the discharge is from a specific Medicaid managed care plan, but not from the PCC plan specifically. In Category 8, the majority of Medicaid discharges (53 cases) were reported in the DHCFP case mix data using specific Medicaid managed care HMO categories (Payer Source Codes 105-117), instead of using the DHCFP case mix payer source "Medicaid Managed Care PCC" (Payer Source Code 104). The second highest area within Category 8 were discharges reported with a specific Medicaid managed care HMO plan whereas on the Medicaid data the plan was recorded in a generalized category of "Medicaid Managed Other" representing 40 cases. Category 8 represents less than one percent of all (17,498) Medicaid non-matches and less than one half of one percent of the total linked data set.

Category 9

The "Individual HMO Plan without Managed Care Selected" category includes discharges reported as an HMO plan and there is no indication that these are Medicaid or Medicaid managed care discharges. For all cases, the specific DHCFP case mix reported HMO plan was an exact match to the HMO plan listed with the Medicaid managed care plan. Overall, Category 9 type non-matches were insignificant with only eight cases reported.

Medicaid Conclusions

Overall the effort to link the Medicaid enrollee data to the DHCFP case mix data base was highly successful as 88% of the

Selected Category 8 Reporting Differences

Case Mix Reported	Medicaid Data
Ocean State Physician's Plan Medicaid Managed Care	Medicaid Managed Care Other
HMO Blue Plan Medicaid Managed Care	Medicaid Managed Care Other
Capital Area Community Health Plan Medicaid Managed Care	Medicaid Managed Care Other

Selected Category 9 Reporting Differences

Case Mix Reported	Medicaid Data
Pilgrim	Pilgrim Medicaid Managed Care
HMO Blue	HMO Blue Medicaid Managed Care
Fallon	Fallon Medicaid Managed Care

Medicaid enrollee records were successfully linked to the DHCFP case mix data for the two quarters under study. The majority (69.4%) of the payers were an exact match. Of those that did not match exactly, further analysis revealed that nearly all (98%) were identifiable as Medicaid patients, though for various reasons hospitals may not have always selected the most precise Medicaid managed care payer source.

Detailed review of the DHCFP Case Mix Payer Source Medicaid Linked Data Set demonstrated that the majority of the non-matches were caused by lack of specificity in hospital reporting of payer source. Payer sources that were identifiable as Medicaid, but were not the specific Medicaid managed care plan represented near 29%[12] of the total data set. Primarily, these cases were reported as "Medicaid" rather than a Medicaid managed care or the PCC plan. Since lack of specificity errors generally resulted in selection of ordinary Medicaid versus selection of a Medicaid managed care plan, these non-matches were still identifiable as Medicaid patients. Additionally, a significant number of Medicaid managed care identifiable cases were payer sources that were improperly reported using both the primary and secondary DHCFP case mix payer source when attempting to describe the individual Medicaid managed care HMO plans. Thus, users of the DHCFP case mix data should look at both the primary and secondary payer source fields when using the payer source data.

Further review of the DHCFP case mix records revealed that only 1.7%[13] of the total linked data were unidentifiable as Medicaid discharges. The majority of these unidentifiable Medicaid cases were caused by reporting general payer source categories or general Medicare categories that were not Medicaid or Medicaid managed care plans. The results of the data analysis for the total linked data set are summarized in order of importance:

- Medicaid selected, but not most accurate or precise plan choice[14]—25.5%
- Medicaid use with primary payer source and secondary payer source—3.2%
- Unexplainable non-match—1.1%
- General categories/imprecise and not Medicaid[15]—0.6%
- Medicaid Managed Care HMO versus Medicaid—0.2%
- Medicaid selected but precise choice unavailable as was an unlisted plan—0.01%

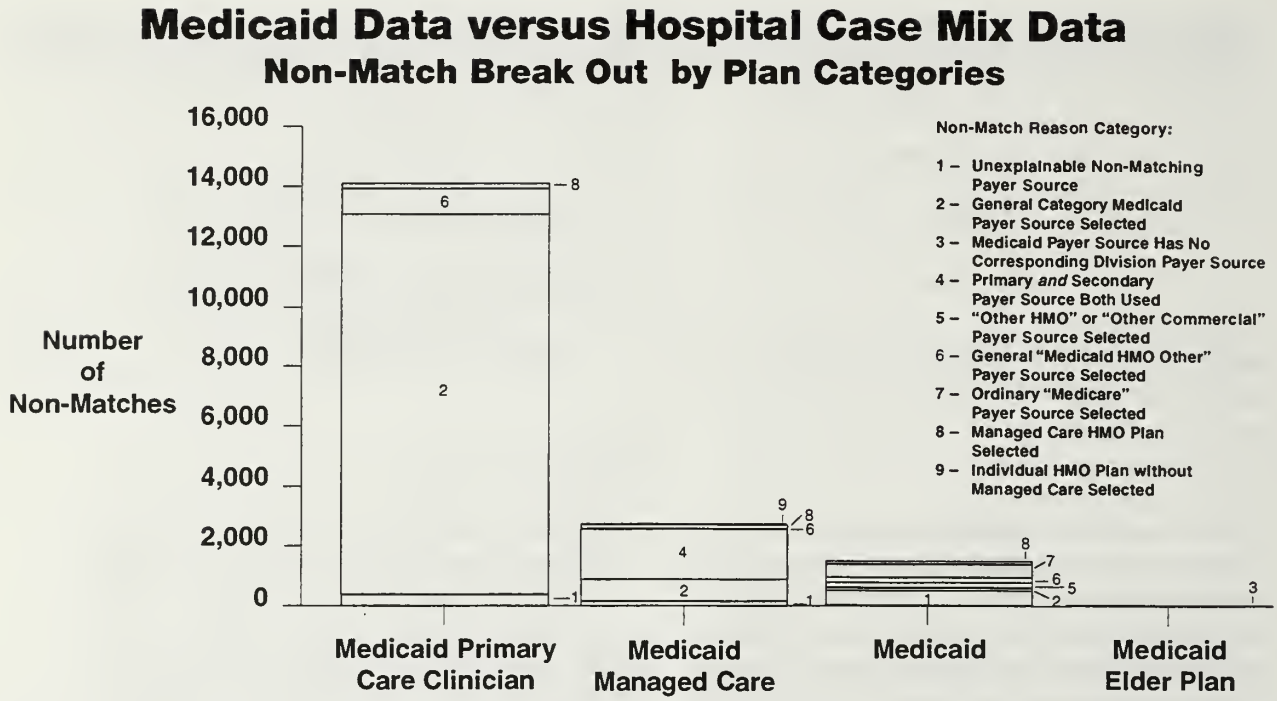

Figure 18 This chart is based on 17,498 non-matching cases for the four Medicaid plans. The numbers labeling the bars on this graph correspond to the non-match categories listed 1-9 in the key above. For precise non-match totals, see the Medicaid non-match table on page 42.

Source: Non-Matching DHCFP Case Mix Payer Source Medicaid Data Subset for 01/01/94 - 06/30/94

- Individual HMO plan versus Medicaid Managed Care—0.01%

It is important to note the timing difference for the Division of Health Care Finance and Policy case mix payer source - Medicaid data review. The Medicaid review used the first two quarters of calendar year 1994 whereas the other insurer analyses used the first quarter of calendar year 1995. These quarters were used based on the most current available data at the time of the review. Furthermore, January 1994 was the initial implementation of the new and extensive payer code changes. Payer type was expanded and a new payer source field was added referencing more than 150 new payer sources for hospitals to report. This most likely contributed to higher imprecise Medicaid reporting as compared to the other insurer results.

Hospital feedback substantiated unawareness or unfamiliarity with the new payer source codes, in particular with Medicaid Managed Care payer source codes. As a result of this analysis, several hospitals were contacted to discuss the results of the 1994 Medicaid findings. The hospitals contacted seemed generally receptive toward the information given and cited several potential reasons causing the imprecise reporting results. The major reasons relayed were relevant to the newness of new payer source Medicaid Managed Care plans implemented in 1994 and included: unawareness or unfamiliarity with the new Medicaid managed care payer source codes, unawareness that a particular plan had a Medicaid product, and unawareness of the accurate payer source codes. Most hospitals felt that the data has greatly improved since the initial 1994 implementation.

Medicare

Medicare managed care plan data was included in each individual participating payer's data set. As a result, review of the insurer data allowed the Division to also examine the Medicare managed care payer source component for these payers. Please see individual payer sections for the specific details.

Blue Cross Blue Shield of Massachusetts

A variety of issues needed to be resolved to facilitate the participation of Blue Cross Blue Shield of Massachusetts in this project. Many legal concerns were addressed, especially around patient identifiers such as the Social Security Number. In addition, since this data included all Blue Cross Blue Shield plan types (indemnity and managed care), creation of the DHCFP Case Mix Payer Source Blue Cross Blue Shield Linked Data Set involved extensive use of time. The detailed analysis also required increased time because of the large number of Blue Cross Blue Shield discharges, voluminous nature of the information in the linked data set, and limited resources.

A prospective addendum would focus on the analysis of Blue Cross Blue Shield data, as time and resources permit. Please see Figure 4 on page 12 for the overall percent of DHCFP case mix discharges represented by Blue Cross Blue Shield for the quarter under study.

End Notes for Phase II: Comparing DHCFP Payer Source with Insurer Data

1. "Unexplainable" non-matches refer to cases where the hospital-reported payer source in the DHCFP case mix data base seems to have no clear relationship to the Fallon plan type as reported in the Fallon claims data set.

2. These two categories, "General Categories/Imprecise and Not Fallon" and "Unexplainable Non-match," combined constitute the 2% of records in the DHCFP Case Mix Payer Source Fallon Linked Data Set that were not identifiable as Fallon discharges.

3. Examples of imprecise HCHP plans include reporting HCHP Medicare Managed Care as "HCHP" and "Medicare," and HCHP Medicaid Managed Care as "HCHP" and "Medicaid" in the DHCFP case mix data base.

4. The 5.9% includes the total cases in Category 2 and Category 4.

5. The 5.4% corresponds to Category 3.

6. The 3.87% includes the total cases in Category 5, Category 6 and Category 7.

7. "Unexplainable" non-matches refer to cases where the hospital-reported payer source in the DHCFP case mix data base seems to have no clear relationship to the HCHP plan type as reported in the HCHP claims data set.

8. These two categories, "General Categories/Imprecise and Not HCHP" and "Unexplainable Non-match," combined constitute the 4.2% of records in the DHCFP Case Mix Payer Source HCHP Linked Data Set that were not identifiable as HCHP patients.

9. Includes 684 cases reported in the Medicaid data as regular Medicaid for Category 1, Category 5 and Category 7.

10. Includes 278 cases reported in the Medicaid data as a Medicaid managed care plan for Category 1.

11. The four non-acute or closed hospitals removed include Adcare Hospital of Worcester, Hahnemann of Boston, Heritage Hospital and Ludlow.

12. Includes Category 2, Category 4, Category 6 and Category 8.

13. Includes Category 1, Category 5, Category 7 and Category 9.

14. Includes Category 2 and Category 6.

15. Includes Category 5 and Category 7.

Summary of Project Accomplishments

The Case Mix Payer Validation Project is the first major effort to validate the new case mix payer source codes in the Division of Health Care Finance and Policy (DHCFP) case mix data base. The project involved extensive planning, coordination among interested parties, process step development, analytical data review, comprehensive summarization and reporting of complex data results. The groundwork has been developed for continued future validation of payer source accuracy as needed. Moreover, hospitals have expressed interest in receiving additional feedback.

Highlights of predominant project accomplishments are outlined below.

Project Accomplishments

Completed Baseline Analysis of DHCFP Case Mix Payer Source Data

- *Reviewed hospital-reported payer sources*
- *Reviewed non-matches between hospital-reported payer type and payer source*
- *Reviewed the extent of acute hospitals' use of "Other" as a default payer source*
- *Contacted hospitals by phone to share preliminary information on problem areas*

Reviewed and Updated 150 Payer Sources in the DHCFP Case Mix Regulation

- *Contacted numerous major health insurers throughout the state to obtain the most current list of their health plans and product types (see Appendix D: Payer Mapping)*
- *Recommended payer type and source updates were adopted by the Division on April 18, 1997, communicated to hospitals shortly thereafter, and scheduled for implementation beginning with the October 1, 1997 hospital discharge data*
- *Improved presentation and setup of the payer source list for ease of use*

Comparative Analysis of DHCFP Case Mix Payer Source to Payer Data

- *Compared DHCFP case mix payer source data to data from Fallon Community Health Plan, Harvard Community Health Plan, and Medicaid using in-depth analysis*
- *Identified and classified the most prevalent types of non-matches*
- *Summarized findings and compiled the associated graphs for the payers studied into this comprehensive final report*

Future Recommendations

Completion of the *Case Mix Payer Validation Report* covered a vast array of payer data related issues. Due to the scope and nature of the project, related issues were addressed as discovered. Additionally, several recommendations for the future were formulated as a result of the project:

- Review and update of payer type and source as needed,
- Provide feedback to hospitals regarding accuracy of DHCFP case mix payer data, and
- Monitor and review reporting of "Other."

The Division's review of payer type and payer source during this project demonstrated the need for extensive revisions and improved clarity in the presentation and set-up of the payer sources. The DHCFP case mix payer source list was modified to present the payer source first and its associated payer type second to alleviate some confusion about the reporting requirement. This same list was reformatted alphabetically and sent to the DHCFP case mix contact for each hospital to simplify payer source reporting. The Division further segregated supplemental plans to assist hospitals in using the DHCFP case mix payer source list for secondary payers. Specifically, a category for supplemental payer sources was created and lists all supplemental products together to facilitate use of the DHCFP case mix payer source list.

Furthermore, commercial payer sources were expanded to have more descriptive titles. Commercial insurers with multiple managed care products allowed more room for error or confusion when new plans were added and the original source was not listed under the new payer type (i.e. commercial plans adding new HMO products). Thus, commercial plans having multiple managed care products were further broken out into individual payer sources indicating the PPO or HMO status within the payer source name. These updates to the case mix regulation payer types and payer sources were adopted April 18, 1997 as a direct result of this Case Mix Payer Validation Project.

Therefore, the first recommendation of the Division is to continue to update this list as warranted by industry changes. To maintain the accuracy of the payer source list in the future, individual insurers should be contacted as needed to update specific plans, and as resources permit, to keep pace with rapid industry change, increases in numbers of insurers, and plan changes within insurers. Hospitals should report any new plans to the Division of Health Care Finance and Policy so that we may assist them in categorizing them and work pro-actively to add them to the DHCFP case mix payer source list when necessary.

Also, consideration should be given to further research of the National Payer Identifier as a Case Mix Requirement to eventually replace or supplement the Payer Source field. This list would be less resource intensive to maintain once it is used successfully on a national basis.

The second recommendation is to provide feedback to hospitals regarding the results of the analysis. As stated earlier, hospitals found to have significant payer type and payer source non-match problems during the baseline analysis were initially contacted with the findings during the course of this project. This report will be used to communicate the final results of both the baseline and the in-depth payer analysis and will be sent to each hospital. Each hospital will also receive customized information for their hospital regarding their use of "Other" payer sources which proved to be a significant problem area.

The third recommendation is to review the level of use of the default "Other" payer

source category by hospitals. As noted in this report, a particular group of hospitals experienced a significant level of overuse of the "Other" payer source category. Reviewing hospital usage of this category will help the Division to evaluate any new problem areas that may develop after implementation of the updated DHCFP case mix payer source list and will enable the Division of Health Care Finance and Policy to better assist those hospitals which may be experiencing problems with precise payer source selection.

Conclusion

The Case Mix Payer Source Validation Project reviewed the case mix payer source for Fallon Community Health Plan, Harvard Community Health Plan and Medicaid including review of both the regular plans and managed care plans of these payers.[1] The Case Mix Payer Source Validation Project provided successful results showing the payer source field to be quite accurate. Project results show substantial accuracy in the payer source data field with an average rate of 98% for identifiable case mix payer source matches to the plans of participating payers. The non-identifiable non-matching payer sources averaged only two percent.

Findings from this payer validation analysis are summarized into two payer source groupings: "General" and "Identifiable." The "General Payer Source Grouping" represents non-matches that are not clearly identifiable as one of the payers studied and includes discharges reported as "Medicare HMO," ordinary "Medicare," ordinary "Medicaid," or "Other" payer sources instead of being insurer plan specific. Non-matches in the "Identifiable Payer Source Grouping" are clearly identifiable as the payer's plan. This grouping includes non-matches reported as "Identifiable", "Imprecise" or as the insurer's general HMO plan or principle plan.

The majority of non-matches for the payers studied resulted from using payer sources included in the grouping "Identifiable Insurer Payer Sources." These "Identifiable Insurer Payer Sources" were either reported using both the primary and secondary case mix payer sources, or were the result of using only the insurer's HMO payer source, or for using "Medicaid " as the principal payer source. It is important to note that these cases were clearly identifiable as each individual insurer studied (HCHP, Fallon and Medicaid) by using the primary and secondary case mix payer sources.

General Payer Source Grouping

Among the private payers examined in this analysis, the adjusted "General Payer Source Grouping" for non-identifiable insurer non-matches averaged a rate of two percent. This rate indicates the percent of discharges that were not clearly identifiable as the payer studied. The non-matching payer source rates are rates where the insurer's claims data indicated a patient belonged in one of its plans, but where the case mix data did not give any indication that the patient belonged to that insurer. The average rate for the General Payer Source Grouping in addition to the individual payers "General" non-match percents are as follows:

Average "General" Non-Match Rate—2%[2]

- Fallon—2%
- HCHP—2.4%[3]
- Medicaid—1.7%

Identifiable Payer Source Grouping

The average "Identifiable Payer Source Grouping" for the private payers reviewed averaged ten percent. This rate indicates the

percent of discharges that were imprecise but clearly identifiable as the payer studied. The identifiable non-matching payer source rates are rates where the insurer's claims data indicated a patient belonged in one of its specific plans, but where the DHCFP case mix data was reported using the insurer's HMO plan or for Medicaid, the principle plan. The average rate for the Identifiable Payer Source Grouping in addition to the individual payers percents are as follows:

Average "Identifiable" Non-Match Rate—10%[4]

- Fallon—14%[5]
- HCHP—6%[6]
- Medicaid—28.9%[7]

It is important to note the timing difference for the DHCFP Case Mix Payer Source - Medicaid Data review. The Medicaid review used the first two quarters of calendar year 1994 whereas the other insurer analyses used the first quarter of calendar year 1995. These quarters were used based on the most current available data at the time of the review. Furthermore, January 1994 was the initial implementation of the new and extensive payer code changes. Payer type was expanded and a new payer source field was added referencing more than 150 new payer sources for hospitals to report. This most likely contributed to higher imprecise Medicaid reporting as compared to the results of other insurers. Hospital feedback for the Medicaid data review substantiated unawareness or unfamiliarity with the new payer source codes, and with Medicaid manage care payer source codes in particular.

The Division of Health Care Finance and Policy classified the results into comparable uniform DHCFP categories for each payer reviewed. The results are included under the individual payer analyses sections. These uniform DHCFP categories were created to show the results of the analysis in greater detail and should allow more flexibility for DHCFP case mix data users. Moreover, the findings may be useful for data users when analyzing other payers in the DHCFP case mix data since the payers studied by the Division of Health Care Finance and Policy for this project represent some of the largest payers in the Commonwealth of Massachusetts.

This payer validation analysis provided some noteworthy results for DHCFP case mix data users. Specifically, DHCFP case mix data users should be aware that since some discharges are reported as imprecise payer sources, they should also review the principle plan or HMO payer source of private payers, and review the discharges reported with the ordinary Medicaid payer source for Medicaid. Additionally, data users should also review the primary and secondary case mix payer sources when reviewing Medicaid managed care or Medicare managed care plans. Finally, data users should be aware that hospitals can only report payer sources that are available on the DHCFP case mix payer source list. New payer plans may not always be available as a choice due to the constant fluctuation in the industry. Therefore, one should consider reviewing the other applicable payer sources, in general the payer's HMO payer source or principal payer source plan.

Based on the small number of non-matches overall, most hospitals appear to be using the DHCFP case mix payer source list quite successfully. The DHCFP case mix payer source list with its use of predetermined payer source and payer type matches was developed by the Division to help achieve consistency among hospitals in the reporting of their payer data. As with the use of any other type of data, case mix data users should be aware of certain reporting issues that might apply when using the payer data. The DHCFP case mix data, including the reported

payer data, is as-filed by the hospitals. Payer data is subject to change if a change in a patient's coverage is determined after discharge. In addition, some hospital information systems may not be able to capture the full range of payers and their reporting may not be as specific as those hospitals with more precise reporting capabilities. However, it is expected that the reporting of the payer source data should improve over time and that reporting will become even more accurate with the implementation of the updated payer codes, which took effect in October 1997.

End Notes for Conclusion

1. Analysis of Fallon and HCHP data sets included review of Medicaid managed care plans. Thus, there is some overlap between Medicaid and the HMO plans reviewed for the Medicaid managed care plans.

2. The Medicaid results are not included in the average General Payer Source non-match rate as it is from a different time period and less current than the private insurer analyses.

3. HCHP's adjusted "non-identifiable" non-match rate is reported here as 2.4%. HCHP's total non-identifiable non-match rate of 4.2%, was largely the result of one hospital. That one hospital reported "Other HMO" accounting for 1.8% of HCHP's total non-identifiable non-match records.

4. The Medicaid results are not included in the average Identifiable Payer Source non-match rate as it is from a different time period and less current than the private insurer analyses.

5. Fallon includes percents for "Fallon Selected but not the Precise Plan" at 11.7% and "Use of Primary and Secondary Payer Source" at 2.3%.

6. HCHP includes percents for "HCHP Selected but not the Precise Plan" at 3.8% and "Use of Primary and Secondary Payer Source" at 2.1%".

7. Medicaid includes percents for "Medicaid Selected but not the Precise Plan" at 25.5% and "Use of Primary and Secondary Payer Source" at 3.17%", and Medicaid Managed Care HMO versus Medicaid at 0.2%

Appendix A: 1994 Source of Payment List by Payer Source

This 1994 Source of Payment List is organized alphabetically by payer source and has been in effect since January 1, 1994. This list was replaced by the 1997 Source of Payment List displayed in Appendix B and Appendix C.

Payer Type		Source of Payment	
Code	Abbreviation	Code	Definition
7	COM*	137	AARP/Prudential
E	PPO	71	ADMAR
E	PPO	10	Advantage (Pilgrim product)
7	COM	51	Aetna Life Insurance
C	BCBS-MC	2	Bay State Health Care
7	COM*	139	Bankers Multiple Line
7	COM*	138	Banker's Life and Casualty Insurance
6	BCBS*	136	BCBS Medex
C	BCBS-MC	11	Blue Care Elect
6	BCBS	142	Blue Cross Indemnity
7	COM	52	Boston Mutual Insurance
8	HMO	44	(Capital Area) Community Health Plan
8	HMO	6	Central Mass Health Care
E	PPO	12	Central Mass Health Care-Central Plus
5	GOV	151	CHAMPUS
D	COM-MC	29	CIGNA Health Plan
D	COM-MC	87	CIGNA PPO
7	COM*	140	Combined Insurance Company of America
C	BCBS-MC	21	Commonwealth PPO
E	PPO	13	Community Health Plan Options
7	COM	53	Connecticut General Insurance
7	COM	54	Continental Assurance Insurance
8	HMO	4	Fallon Community Health Plan
0	OTH	152	Foundation
9	FC	143	Free Care
E	PPO	88	Freedom Care
0	OTH	153	Grant
7	COM	89	Great West/NE Care
7	COM	55	Guardian Life Insurance
7	COM	56	Hartford L&A Insurance
8	HMO	1	Harvard Community Health Plan
8	HMO	20	HCHP of New England (formerly RIGHA)
E	PPO	14	Health New England Advantage
8	HMO	24	Health New England, Inc
8	HMO	45	Health Source New Hampshire
E	PPO	90	Healthsource Preferred (self-funded)
C	BCBS-MC	81	HMO Blue
8	HMO	46	HMO Rhode Island
7	COM	57	John Hancock Life Insurance
D	COM-MC	82	John Hancock Preferred
8	HMO	40	Kaiser Foundation
7	COM	58	Liberty Life Insurance
7	COM	85	Liberty Mutual
7	COM	59	Lincoln National Insurance
D	COM-MC	76	Mass Mutual
7	COM	60	Mass Mutual Life Insurance
8	HMO	19	Matthew Thornton
4	MCD	103	Medicaid

Payer Type		Source of Payment	
Code	Abbreviation	Code	Definition
B	MCD-MC	105	Medicaid Managed Care-Bay State
B	MCD-MC	107	Medicaid Managed Care-Capital Area Community Health Plan
B	MCD-MC	106	Medicaid Managed Care-Central Mass Health Care
B	MCD-MC	108	Medicaid Managed Care-Fallon Community Health Plan
B	MCD-MC	109	Medicaid Managed Care-Harvard Community Health Plan
B	MCD-MC	110	Medicaid Managed Care-Health New England
B	MCD-MC	111	Medicaid Managed Care-HMO Blue
B	MCD-MC	112	Medicaid Managed Care-Kaiser Foundation Plan
B	MCD-MC	113	Medicaid Managed Care-Neighborhood Health Plan
B	MCD-MC	114	Medicaid Managed Care-Ocean State Physician's Plan
B	MCD-MC	119	Medicaid Managed Care- Other (not listed elsewhere)
B	MCD-MC	115	Medicaid Managed Care-Pilgrim Health Care
B	MCD-MC	104	Medicaid Managed Care-Primary Care Clinician (PCC)
B	MCD-MC	116	Medicaid Managed Care-Tufts Associated Health Plan
B	MCD-MC	117	Medicaid Managed Care-US Healthcare
B	MCD-MC	118	Medicaid-Mental Health Management of America (MHMA)
3	MCR	121	Medicare
F	MCR-MC	122	Medicare HMO-Bay State Health Care for Seniors
F	MCR-MC	124	Medicare HMO-Central Mass Health Care Central Care
F	MCR-MC	123	Medicare HMO-Community Health Plan Medicare Plus
F	MCR-MC	131	Medicare HMO-Enhance (Pilgrim product)
F	MCR-MC	125	Medicare HMO-Fallon Senior Plan
F	MCR-MC	126	Medicare HMO-Harvard Community Health Senior Care
F	MCR-MC	127	Medicare HMO-Health New England Medicare Wrap
F	MCR-MC	128	Medicare HMO-HMO Blue for Seniors
F	MCR-MC	129	Medicare HMO-Kaiser Medicare Plus Plan
F	MCR-MC	132	Medicare HMO-Matthew Thornton Senior Plan
F	MCR-MC	130	Medicare HMO-Ocean State Physicians Health Plan
F	MCR-MC	134	Medicare HMO-Other (not listed elsewhere)
F	MCR-MC	133	Medicare HMO-Tufts Medicare Supplement (TMS)
8	HMO	43	MEDTAC
D	COM-MC	15	Met-Elect
D	COM-MC	16	Met-Life Point of Service
D	COM-MC	41	MetLife Healthcare Network of Mass
7	COM	61	Metropolitan Life Insurance
7	COM	62	Mutual of Omaha Insurance
8	HMO	47	Neighborhood Health Plan
C	BCBS-MC	3	Network Blue (Point of Service)
7	COM	91	New England Benefits
7	COM	63	New England Mutual Insurance
7	COM	64	New York Life Insurance
N	NONE	159	None (Valid only for Secondary Source of Payment)
8	HMO	5	Ocean State Physician Plan
E	PPO	77	Options for Healthcare PPO
6	BCBS	154	Other BCBS (Not listed elsewhere)
C	BCBS-MC	155	Other Blue Cross Managed Care (Not listed elsewhere)
7	COM**	147	Other Commercial (not listed elsewhere)
5	GOV	144	Other Government

Payer Type		Source of Payment	
Code	Abbreviation	Code	Definition
8	HMO**	148	Other HMO (not listed elsewhere)
7	COM*	141	Other Medigap (not listed elsewhere)
0	OTH**	150	Other Non-Managed Care (not listed elsewhere)
6	BCBS	156	Out-of-State BCBS
5	GOV	120	Out-of-State Medicaid
3	MCR	135	Out-of-State Medicare
7	COM	65	Paul Revere Life Insurance
D	COM-MC	78	Phoenix Preferred PPO
8	HMO	8	Pilgrim Health Care
E	PPO	79	Pioneer Health Care PPO
8	HMO	25	Pioneer Plan
E	PPO**	149	PPO and Other Managed Care (not listed elsewhere)
7	COM	92	Private Health Care System
D	COM-MC	18	Pru Network PPO
D	COM-MC	26	Prucare
D	COM-MC	75	PRUCARE of Mass
D	COM-MC	17	Prucare Plus (Point of Service)
7	COM	66	Prudential Insurance
E	PPO	93	Psychological Health Plan
7	COM	101	Quarto Claims
	RES	23	Reserved Field
	RES	30	Reserved Field
	RES	27	Reserved Field
	RES	28	Reserved Field
	RES	69	Reserved Field
	RES	31	Reserved Field
	RES	72	Reserved Field
	RES	73	Reserved Field
	RES	74	Reserved Field
	RES	22	Reserved Field
	RES	33	Reserved Field
	RES	50	Reserved Field
	RES	49	Reserved Field
	RES	84	Reserved Field
	RES	86	Reserved Field
	RES	95	Reserved Field
	RES	99	Reserved Field
	RES	97	Reserved Field
	RES	96	Reserved Field
	RES	83	Reserved Field
	RES	98	Reserved Field
	RES	37	Reserved Field
	RES	38	Reserved Field
	RES	36	Reserved Field
	RES	35	Reserved Field
	RES	34	Reserved Field
	RES	42	Reserved Field
	RES	39	Reserved Field

Payer Type		Source of Payment	
Code	Abbreviation	Code	Definition
1	SP	145	Self-pay
7	COM	67	State Mutual Life Insurance
7	COM	94	Time Insurance Co
7	COM	100	Transport Life Insurance
7	COM	68	Traveler's Insurance
D	COM-MC	32	Travelers Preferred
8	HMO	7	Tufts Associated Health Plan
E	PPO	80	Tufts Total Health Plan PPO
7	COM	70	Union Labor Life Insurance
8	HMO	9	United Health Care of New England (Ocean State)
8	HMO	48	US Healthcare
7	COM	102	Wausau Insurance Company
2	WOR	146	Worker's Compensation

Notes: *Medigap is always supplemental to Medicare.
**Please list under the specific carrier when possible.

Appendix B: 1997 Source of Payment List by Payer Source Code

This 1997 Source of Payment List is organized by the payer source code. The content is the same as Appendix C, however, the information is arranged in numerical sequence. This list replaced the 1994 Source of Payment List displayed in Appendix A.

Source of Payment		Payer Type	
Code	Definition	Matching Code	Abbreviation
1	Harvard Community Health Plan	8	HMO
2	Bay State - a product of HMO Blue	C	BCBS-MC
3	Network Blue (PPO)	C	BCBS-MC
4	Fallon Community Health Plan (includes Fallon Plus, Fallon Affliates, Fallon UMass)	8	HMO
5	Invalid (replaced by #9)		
6	Invalid (replaced by #251)		
7	Tufts Associated Health Plan	8	HMO
8	Pilgrim Health Care	8	HMO
9	United Health Plan of New England (Ocean State)	8	HMO
10	Pilgrim Advantage - PPO	E	PPO
11	Blue Care Elect	C	BCBS-MC
12	Invalid (replaced by #49)		
13	Community Health Plan Options (New York)	J	POS
14	Health New England Advantage POS	J	POS
15	Invalid (replaced by #158)		
16	Invalid (replaced by #172)		
17	Prudential Healthcare POS	D	COM-MC
18	Prudential Healthcare PPO	D	COM-MC
19	Matthew Thornton	8	HMO
20	HCHP of New England (formerly RIGHA)	8	HMO
21	Commonwealth PPO	C	BCBS-MC
22	Aetna Open Choice PPO	D	COM-MC
23	Guardian Life Insurance Company PPO	D	COM-MC
24	Health New England, Inc	8	HMO
25	Pioneer Plan	8	HMO
26	Invalid (replaced by #75)		
27	First Allmerica Financial Life Insurance PPO	D	COM-MC
28	Great West Life PPO	D	COM-MC
29	Invalid (replaced by #171 and 250)		
30	CIGNA (Indemnity)	7	COM
31	One Health Plan HMO (Great West Life)	D	COM-MC
32	Invalid (replaced by #157 and 158)		
33	Mutual of Omaha PPO	D	COM-MC
34	New York Life Care PPO	D	COM-MC
35	United Healthcare Insurance Company - HMO (New for 1997)	D	COM-MC
36	United Healthcare Insurance Company - PPO (New for 1997)	D	COM-MC
37	HCHP-Pilgrim HMO (integrated product)	8	HMO
38	Health New England Select (self-funded)	8	HMO
39	Pilgrim Direct	8	HMO
40	Kaiser Foundation	8	HMO
41	Invalid (replaced by #157)		
42	ConnectiCare Of Massachusetts	8	HMO
43	MEDTAC	8	HMO
44	Community Health Plan	8	HMO
45	Health Source New Hampshire	8	HMO
46	Blue CHiP (BCBS Rhode Island)	8	HMO
47	Neighborhood Health Plan	8	HMO
48	US Healthcare	8	HMO

Source of Payment		Payer Type	
Code	Definition	Matching Code	Abbreviation
49	Healthsource CMHC Plus PPO	E	PPO
50	Blue Health Plan for Kids	6	BCBS
51	Aetna Life Insurance	7	COM
52	Boston Mutual Insurance	7	COM
53	Invalid (no replacement)		
54	Continental Assurance Insurance	7	COM
55	Guardian Life Insurance	7	COM
56	Hartford L&A Insurance	7	COM
57	John Hancock Life Insurance	7	COM
58	Liberty Life Insurance	7	COM
59	Lincoln National Insurance	7	COM
60	Invalid (replaced by #97)		
61	Invalid (replaced by #96)		
62	Mutual of Omaha Insurance	7	COM
63	New England Mutual Insurance	7	COM
64	New York Life Care Indemnity (New York Life Insurance)	7	COM
65	Paul Revere Life Insurance	7	COM
66	Prudential Insurance	7	COM
67	First Allmerica Financial Life Insurance	7	COM
68	Invalid (replaced by #96)		
69	Corporate Health Insurance Liberty Plan	7	COM
70	Union Labor Life Insurance	7	COM
71	ADMAR	E	PPO
72	Healthsource New Hampshire	7	COM
73	United Health and Life (subsidiary of United Health Plans of NE)	7	COM
74	United Healthcare Insurance Company	7	COM
75	Prudential Healthcare HMO	D	COM-MC
76	Invalid (replaced by #270)		
77	Options for Healthcare PPO	E	PPO
78	Phoenix Preferred PPO	D	COM-MC
79	Pioneer Health Care PPO	E	PPO
80	Tufts Total Health Plan PPO	E	PPO
81	HMO Blue	C	BCBS-MC
82	John Hancock Preferred	D	COM-MC
83	US Healthcare Quality Network Choice- PPO	E	PPO
84	Private Healthcare Systems PPO	E	PPO
85	Liberty Mutual	7	COM
86	United Health & Life PPO (Subsidiary of United Health Plans of NE)	E	PPO
87	CIGNA PPO	D	COM-MC
88	Freedom Care	E	PPO
89	Great West/NE Care	7	COM
90	Healthsource Preferred (self-funded)	E	PPO
91	New England Benefits	7	COM
92	Invalid (replaced by # 84, 166, 184)		
93	Psychological Health Plan	E	PPO
94	Time Insurance Co	7	COM
95	Pilgrim Select - PPO	E	PPO
96	Metrahealth (United Health Care of NE)	7	COM

Source of Payment		Payer Type	
Code	Definition	Matching Code	Abbreviation
97	UniCare	7	COM
98	Healthy Start	9	FC
99	Other POS (not listed elsewhere) ***	J	POS
100	Transport Life Insurance	7	COM
101	Quarto Claims	7	COM
102	Wausau Insurance Company	7	COM
103	Medicaid	4	MCD
104	Medicaid Managed Care-Primary Care Clinician (PCC)	B	MCD-MC
105	Invalid (replaced by #111)		
106	Medicaid Managed Care - Central Mass Health Care	B	MCD-MC
107	Medicaid Managed Care - Community Health Plan	B	MCD-MC
108	Medicaid Managed Care - Fallon Community Health Plan	B	MCD-MC
109	Medicaid Managed Care - Harvard Community Health Plan	B	MCD-MC
110	Medicaid Managed Care - Health New England	B	MCD-MC
111	Medicaid Managed Care - HMO Blue	B	MCD-MC
112	Medicaid Managed Care - Kaiser Foundation Plan	B	MCD-MC
113	Medicaid Managed Care - Neighborhood Health Plan	B	MCD-MC
114	Medicaid Managed Care - United Health Plans of NE (Ocean State Physician's Plan)	B	MCD-MC
115	Medicaid Managed Care - Pilgrim Health Care	B	MCD-MC
116	Medicaid Managed Care - Tufts Associated Health Plan	B	MCD-MC
117	Invalid (no replacement)		
118	Medicaid Mental Health & Substance Abuse Plan - Mass Behavioral Health Partnership	B	MCD-MC
119	Medicaid Managed Care Other (not listed elsewhere) ***	B	MCD-MC
120	Out-of-State Medicaid	5	GOV
121	Medicare	3	MCR
122	Invalid (replaced by #235)		
123	Invalid (no replacement)		
124	Invalid (replaced by #234)		
125	Medicare HMO - Fallon Senior Plan	F	MCR-MC
126	Invalid (replaced by #230)		
127	Medicare HMO - Health New England Medicare Wrap **	F	MCR-MC
128	Medicare HMO - HMO Blue for Seniors **	F	MCR-MC
129	Medicare HMO - Kaiser Medicare Plus Plan **	F	MCR-MC
130	Invalid (replaced by #232 and 233)		
131	Medicare HMO - Pilgrim Enhance 65 **	F	MCR-MC
132	Medicare HMO - Matthew Thornton Senior Plan	F	MCR-MC
133	Medicare HMO -Tufts Medicare Supplement (TMS)	F	MCR-MC
134	Medicare HMO - Other (not listed elsewhere) ***	F	MCR-MC
135	Out-of-State Medicare	3	MCR
136	BCBS Medex **	6	BCBS
137	AARP/Medigap supplement **	7	COM
138	Banker's Life and Casualty Insurance **	7	COM
139	Bankers Multiple Line **	7	COM
140	Combined Insurance Company of America **	7	COM
141	Other Medigap (not listed elsewhere) ***	7	COM
142	Blue Cross Indemnity	6	BCBS
143	Free Care	9	FC
144	Other Government	5	GOV

Source of Payment		Payer Type	
Code	Definition	Matching Code	Abbreviation
145	Self-Pay	1	SP
146	Worker's Compensation	2	WOR
147	Other Commercial (not listed elsewhere) ***	7	COM
148	Other HMO (not listed elsewhere) ***	8	HMO
149	PPO and Other Managed Care (not listed elsewhere) ***	E	PPO
150	Other Non-Managed Care (not listed elsewhere) ***	0	OTH
151	CHAMPUS	5	GOV
152	Foundation	0	OTH
153	Grant	0	OTH
154	BCBS Other (Not listed elsewhere) ***	6	BCBS
155	Blue Cross Managed Care Other (Not listed elsewhere)***	C	BCBS-MC
156	Out of state BCBS	6	BCBS
157	Metrahealth - PPO (United Health Care of NE)	D	COM-MC
158	Metrahealth - HMO (United Health Care of NE)	D	COM-MC
159	None (Valid only for Secondary Source of Payment)	N	NONE
160	Blue Choice (includes Healthflex Blue) - POS	C	BCBS-MC
161	Aetna Managed Choice POS	D	COM-MC
162	Great West Life POS	D	COM-MC
163	United Healthcare Insurance Company - POS (New for 1997)	D	COM-MC
164	Healthsource CMHC Plus POS	J	POS
165	Healthsource New Hampshire POS (self-funded)	J	POS
166	Private Healthcare Systems POS	J	POS
167	Fallon POS	J	POS
168	Reserved		
169	Kaiser Added Choice	J	POS
170	US Healthcare Quality POS	J	POS
171	CIGNA POS	D	COM-MC
172	Metrahealth - POS (United Health Care of NE)	D	COM-MC
173-180	Reserved		
181	First Allmerica Financial Life Insurance EPO	D	COM-MC
182	UniCare Preferred Plus Managed Access EPO	D	COM-MC
183	Pioneer Health Care EPO	K	EPO
184	Private Healthcare Systems EPO	K	EPO
185-198	Reserved		
199	Other EPO (not listed elsewhere) ***	K	EPO
200	Hartford Life Insurance Co **	7	COM
201	Mutual of Omaha **	7	COM
202	New York Life Insurance **	7	COM
203-209	Reserved		
210	Medicare HMO - Pilgrim Preferred 65 **	F	MCR-MC
211	Medicare HMO - Neighborhood Health Plan Senior Health Plus **	F	MCR-MC
212	Medicare HMO - Healthsource CMHC Central Care Supplement **	F	MCR-MC
213 -219	Reserved		
220	Medicare HMO - Blue Care 65	F	MCR-MC
221	Medicare HMO - Harvard Community Health Plan 65	F	MCR-MC
222	Medicare HMO - Healthsource CMHC	F	MCR-MC
223	Medicare HMO - Harvard Pilgrim Health Care of New England Care Plus	F	MCR-MC
224	Medicare HMO - Tufts Secure Horizons	F	MCR-MC

Source of Payment		Payer Type	
Code	Definition	Matching Code	Abbreviation
225	Medicare HMO - US Healthcare	F	MCR-MC
226-229	Reserved		
230	Medicare HMO - HCHP First Seniority	F	MCR-MC
231	Medicare HMO - Pilgrim Prime	F	MCR-MC
232	Medicare HMO - Seniorcare Direct	F	MCR-MC
233	Medicare HMO - Seniorcare Plus	F	MCR-MC
234	Medicare HMO - Managed Blue for Seniors	F	MCR-MC
235-249	Reserved		
250	CIGNA HMO	D	COM -MC
251	Healthsource CMHC HMO	8	HMO
252-269	Reserved		
270	UniCare Preferred Plus PPO	D	COM - MC

Notes: ** Supplemental Payer Source
*** Please list under the specific carrier when possible

Supplemental Payer Sources To Be Used as Secondary Payer Source Only			
137	AARP/Medigap Supplement	7	COM
138	Banker's Life and Casualty Insurance	7	COM
139	Bankers Multiple Line	7	COM
136	BCBS Medex	6	BCBS
140	Combined Insurance Company of America	7	COM
200	Hartford Life Insurance co.	7	COM
127	Medicare HMO - Health New England Medicare Wrap	F	MCR-MC
212	Medicare HMO - Healthsource CMHC Central Care Supplement	F	MCR-MC
128	Medicare HMO - HMO Blue for Seniors	F	MCR-MC
129	Medicare HMO - Kaiser Medicare Plus Plan	F	MCR-MC
131	Medicare HMO - Pilgrim Enhance 65	F	MCR-MC
210	Medicare HMO - Pilgrim Preferred 65	F	MCR-MC
201	Mutual of Omaha	7	COM
211	Neighborhood Health Plan Senior Health Plus	F	MCR-MC
202	New York Life Insurance Company	7	COM
141	Other Medigap (not listed elsewhere) ***	7	COM
133	Medicare HMO -Tufts Medicare Supplement (TMS)	F	MCR-MC

Appendix C: 1997 Source of Payment List by Payer Source

This 1997 Source of Payment List is organized alphabetically by payer source. The content is the same as Appendix B, however, the information is arranged in alphabetical sequence. This list replaced the 1994 Source of Payment List displayed in Appendix A.

Source of Payment		Payer Type	
Code	Definition	Matching Code	Abbreviation
137	AARP/Medigap supplement **	7	COM
71	ADMAR	E	PPO
51	Aetna Life Insurance	7	COM
161	Aetna Managed Choice POS	D	COM-MC
22	Aetna Open Choice PPO	D	COM-MC
138	Banker's Life and Casualty Insurance **	7	COM
139	Bankers Multiple Line **	7	COM
2	Bay State - a product of HMO Blue	C	BCBS-MC
136	BCBS Medex **	6	BCBS
11	Blue Care Elect	C	BCBS-MC
46	Blue CHiP (BCBS Rhode Island)	8	HMO
160	Blue Choice (includes Healthflex Blue) - POS	C	BCBS-MC
142	Blue Cross Indemnity	6	BCBS
50	Blue Health Plan for Kids	6	BCBS
52	Boston Mutual Insurance	7	COM
154	BCBS Other (Not listed elsewhere) ***	6	BCBS
155	Blue Cross Managed Care Other (Not listed elsewhere)***	C	BCBS-MC
151	CHAMPUS	5	GOV
30	CIGNA (Indemnity)	7	COM
250	CIGNA HMO	D	COM -MC
171	CIGNA POS	D	COM-MC
87	CIGNA PPO	D	COM-MC
140	Combined Insurance Company of America **	7	COM
21	Commonwealth PPO	C	BCBS-MC
44	Community Health Plan	8	HMO
13	Community Health Plan Options (New York)	J	POS
42	ConnectiCare Of Massachusetts	8	HMO
54	Continental Assurance Insurance	7	COM
69	Corporate Health Insurance Liberty Plan	7	COM
4	Fallon Community Health Plan (includes Fallon Plus, Fallon Affiliates, Fallon UMass)	8	HMO
167	Fallon POS	J	POS
67	First Allmerica Financial Life Insurance	7	COM
181	First Allmerica Financial Life Insurance EPO	D	COM-MC
27	First Allmerica Financial Life Insurance PPO	D	COM-MC
152	Foundation	0	OTH
143	Free Care	9	FC
88	Freedom Care	E	PPO
153	Grant	0	OTH
162	Great West Life POS	D	COM-MC
28	Great West Life PPO	D	COM-MC
89	Great West/NE Care	7	COM
55	Guardian Life Insurance	7	COM
23	Guardian Life Insurance Company PPO	D	COM-MC
56	Hartford L&A Insurance	7	COM
200	Hartford Life Insurance Co **	7	COM
1	Harvard Community Health Plan	8	HMO
20	HCHP of New England (formerly RIGHA)	8	HMO
37	HCHP-Pilgrim HMO (integrated product)	8	HMO

Source of Payment		Payer Type	
Code	Definition	Matching Code	Abbreviation
14	Health New England Advantage POS	J	POS
38	Health New England Select (self-funded)	8	HMO
24	Health New England, Inc	8	HMO
45	Health Source New Hampshire	8	HMO
98	Healthy Start	9	FC
251	Healthsource CMHC HMO	8	HMO
164	Healthsource CMHC Plus POS	J	POS
49	Healthsource CMHC Plus PPO	E	PPO
72	Healthsource New Hampshire	7	COM
165	Healthsource New Hampshire POS (self-funded)	J	POS
90	Healthsource Preferred (self-funded)	E	PPO
81	HMO Blue	C	BCBS-MC
130	Invalid (replaced by #232 and 233)		
12	Invalid (replaced by #49)		
53	Invalid (no replacement)		
117	Invalid (no replacement)		
123	Invalid (no replacement)		
92	Invalid (replaced by # 84, 166, 184)		
105	Invalid (replaced by #111)		
32	Invalid (replaced by #157 and 158)		
41	Invalid (replaced by #157)		
15	Invalid (replaced by #158)		
29	Invalid (replaced by #171 and 250)		
16	Invalid (replaced by #172)		
126	Invalid (replaced by #230)		
124	Invalid (replaced by #234)		
122	Invalid (replaced by #235)		
6	Invalid (replaced by #251)		
76	Invalid (replaced by #270)		
26	Invalid (replaced by #75)		
5	Invalid (replaced by #9)		
61	Invalid (replaced by #96)		
68	Invalid (replaced by #96)		
60	Invalid (replaced by #97)		
57	John Hancock Life Insurance	7	COM
82	John Hancock Preferred	D	COM-MC
169	Kaiser Added Choice	J	POS
40	Kaiser Foundation	8	HMO
58	Liberty Life Insurance	7	COM
85	Liberty Mutual	7	COM
59	Lincoln National Insurance	7	COM
19	Matthew Thornton	8	HMO
103	Medicaid	4	MCD
106	Medicaid Managed Care - Central Mass Health Care	B	MCD-MC
107	Medicaid Managed Care - Community Health Plan	B	MCD-MC
108	Medicaid Managed Care - Fallon Community Health Plan	B	MCD-MC
109	Medicaid Managed Care - Harvard Community Health Plan	B	MCD-MC
110	Medicaid Managed Care - Health New England	B	MCD-MC

Source of Payment		Payer Type	
Code	Definition	Matching Code	Abbreviation
111	Medicaid Managed Care - HMO Blue	B	MCD-MC
112	Medicaid Managed Care - Kaiser Foundation Plan	B	MCD-MC
113	Medicaid Managed Care - Neighborhood Health Plan	B	MCD-MC
115	Medicaid Managed Care - Pilgrim Health Care	B	MCD-MC
114	Medicaid Managed Care - United Health Plans of NE (Ocean State Physician's Plan)	B	MCD-MC
119	Medicaid Managed Care Other (not listed elsewhere) ***	B	MCD-MC
104	Medicaid Managed Care - Primary Care Clinician (PCC)	B	MCD-MC
116	Medicaid Managed Care - Tufts Associated Health Plan	B	MCD-MC
118	Medicaid Mental Health & Substance Abuse Plan - Mass Behavioral Health Partnership	B	MCD-MC
121	Medicare	3	MCR
220	Medicare HMO - Blue Care 65	F	MCR-MC
125	Medicare HMO - Fallon Senior Plan	F	MCR-MC
221	Medicare HMO - Harvard Community Health Plan 65	F	MCR-MC
223	Medicare HMO - Harvard Pilgrim Health Care of New England Care Plus	F	MCR-MC
230	Medicare HMO - HCHP First Seniority	F	MCR-MC
127	Medicare HMO - Health New England Medicare Wrap **	F	MCR-MC
222	Medicare HMO - Healthsource CMHC	F	MCR-MC
212	Medicare HMO - Healthsource CMHC Central Care Supplement **	F	MCR-MC
128	Medicare HMO - HMO Blue for Seniors **	F	MCR-MC
129	Medicare HMO - Kaiser Medicare Plus Plan **	F	MCR-MC
234	Medicare HMO - Managed Blue for Seniors	F	MCR-MC
132	Medicare HMO - Matthew Thornton Senior Plan	F	MCR-MC
211	Medicare HMO - Neighborhood Health Plan Senior Health Plus **	F	MCR-MC
134	Medicare HMO - Other (not listed elsewhere) ***	F	MCR-MC
131	Medicare HMO - Pilgrim Enhance 65 **	F	MCR-MC
210	Medicare HMO - Pilgrim Preferred 65 **	F	MCR-MC
231	Medicare HMO - Pilgrim Prime	F	MCR-MC
232	Medicare HMO - Seniorcare Direct	F	MCR-MC
233	Medicare HMO - Seniorcare Plus	F	MCR-MC
133	Medicare HMO - Tufts Medicare Supplement (TMS)	F	MCR-MC
224	Medicare HMO - Tufts Secure Horizons	F	MCR-MC
225	Medicare HMO - US Healthcare	F	MCR-MC
43	MEDTAC	8	HMO
96	Metrahealth (United Health Care of NE)	7	COM
158	Metrahealth - HMO (United Health Care of NE)	D	COM-MC
172	Metrahealth - POS (United Health Care of NE)	D	COM-MC
157	Metrahealth - PPO (United Health Care of NE)	D	COM-MC
201	Mutual of Omaha **	7	COM
62	Mutual of Omaha Insurance	7	COM
33	Mutual of Omaha PPO	D	COM-MC
47	Neighborhood Health Plan	8	HMO
91	New England Benefits	7	COM
63	New England Mutual Insurance	7	COM
64	New York Life Care Indemnity (New York Life Insurance)	7	COM
34	New York Life Care PPO	D	COM-MC
202	New York Life Insurance **	7	COM
159	None (Valid only for Secondary Source of Payment)	N	NONE
31	One Health Plan HMO (Great West Life)	D	COM-MC

Source of Payment		Payer Type	
Code	Definition	Matching Code	Abbreviation
77	Options for Healthcare PPO	E	PPO
147	Other Commercial (not listed elsewhere) ***	7	COM
199	Other EPO (not listed elsewhere) ***	K	EPO
144	Other Government	5	GOV
148	Other HMO (not listed elsewhere) ***	8	HMO
141	Other Medigap (not listed elsewhere) ***	7	COM
150	Other Non-Managed Care (not listed elsewhere) ***	0	OTH
99	Other POS (not listed elsewhere) ***	J	POS
156	Out-of-State BCBS	6	BCBS
120	Out-of-State Medicaid	5	GOV
135	Out-of-State Medicare	3	MCR
65	Paul Revere Life Insurance	7	COM
78	Phoenix Preferred PPO	D	COM-MC
10	Pilgrim Advantage - PPO	E	PPO
39	Pilgrim Direct	8	HMO
8	Pilgrim Health Care	8	HMO
95	Pilgrim Select - PPO	E	PPO
183	Pioneer Health Care EPO	K	EPO
79	Pioneer Health Care PPO	E	PPO
25	Pioneer Plan	8	HMO
149	PPO and Other Managed Care (not listed elsewhere) ***	E	PPO
184	Private Healthcare Systems EPO	K	EPO
166	Private Healthcare Systems POS	J	POS
84	Private Healthcare Systems PPO	E	PPO
75	Prudential Healthcare HMO	D	COM-MC
17	Prudential Healthcare POS	D	COM-MC
18	Prudential Healthcare PPO	D	COM-MC
66	Prudential Insurance	7	COM
93	Psychological Health Plan	E	PPO
101	Quarto Claims	7	COM
168	Reserved		
173-180	Reserved		
185 -198	Reserved		
203-209	Reserved		
213 -219	Reserved		
226-229	Reserved		
235-249	Reserved		
252-269	Reserved		
145	Self-Pay	1	SP
94	Time Insurance Co	7	COM
100	Transport Life Insurance	7	COM
7	Tufts Associated Health Plan	8	HMO
80	Tufts Total Health Plan PPO	E	PPO
97	UniCare	7	COM
182	UniCare Preferred Plus Managed Access EPO	D	COM-MC
270	UniCare Preferred Plus PPO	D	COM - MC
70	Union Labor Life Insurance	7	COM
86	United Health & Life PPO (Subsidiary of United Health Plans of NE)	E	PPO

Source of Payment		Payer Type	
Code	Definition	Matching Code	Abbreviation
73	United Health and Life (subsidiary of United Health Plans of NE)	7	COM
9	United Health Plan of New England (Ocean State)	8	HMO
74	United Healthcare Insurance Company (New for 1997)	7	COM
35	United Healthcare Insurance Company - HMO (New for 1997)	D	COM-MC
163	United Healthcare Insurance Company - POS (New for 1997)	D	COM-MC
36	United Healthcare Insurance Company - PPO (New for 1997)	D	COM-MC
48	US Healthcare	8	HMO
83	US Healthcare Quality Network Choice- PPO	E	PPO
170	US Healthcare Quality POS	J	POS
102	Wausau Insurance Company	7	COM
146	Worker's Compensation	2	WOR

Notes: ** Supplemental Payer Source
*** Please list under the specific carrier when possible

Supplemental Payer Sources To Be Used as Secondary Payer Source Only			
137	AARP/Medigap Supplement	7	COM
138	Banker's Life and Casualty Insurance	7	COM
139	Bankers Multiple Line	7	COM
136	BCBS Medex	6	BCBS
140	Combined Insurance Company of America	7	COM
200	Hartford Life Insurance co.	7	COM
127	Medicare HMO - Health New England Medicare Wrap	F	MCR-MC
212	Medicare HMO - Healthsource CMHC Central Care Supplement	F	MCR-MC
128	Medicare HMO - HMO Blue for Seniors	F	MCR-MC
129	Medicare HMO - Kaiser Medicare Plus Plan	F	MCR-MC
131	Medicare HMO - Pilgrim Enhance 65	F	MCR-MC
210	Medicare HMO - Pilgrim Preferred 65	F	MCR-MC
201	Mutual of Omaha	7	COM
211	Neighborhood Health Plan Senior Health Plus	F	MCR-MC
202	New York Life Insurance Company	7	COM
141	Other Medigap (not listed elsewhere) ***	7	COM
133	Medicare HMO - Tufts Medicare Supplement (TMS)	F	MCR-MC

Appendix D: DHCFP Case Mix Source of Payment Mapping History

The mapping history list is organized alphabetically by payer. The case mix payer sources are grouped under each corresponding payer. Each payer is shown with the previous case mix payer codes, effective in 1994, and thek current payer codes, effective since 1997.

DHCFP Case Mix Payer Source Mapping History

Payer	1994 Payer Source Codes	1997 Payer Source Codes
Aetna Life Insurance	51	22, 51,161
Banker's Life & Casualty Co.	138	138
Banker's Multiple Line	139	139
Blue Cross/Blue Shield	2, 3, 11, 21, 46, 81, 105, 111, 122, 128, 136, 142, 154, 155, 156	2, 3, 11, 21, 46, 50, 81, 111, 128, 136, 142, 154, 155, 156, 160, 220, 234
Boston Mutual Insurance	52	52
Healthsource CMHC: Central Mass. Health Care, Inc. & Healthsource MA	6, 12, 106, 124	49, 106, 164, 212, 222, 251
CIGNA	29, 53, 87	30, 87, 171, 250
Connecticare of Massachusetts		42
Community Health Plan (MA)	13, 44 107, 123	13, 44, 107
Fallon Community Health Plan	4, 108, 125	4, 108, 125, 167
First Allmerica Financial Life Ins. *(formerly State Mutual)*	67	27, 67, 181
Freedom Care	88	88
Great West Life	89	28, 31, 89, 162
Guardian Life Insurance Co.	55	23, 55
Hartford Life Insurance Co.	56	56, 200
Harvard Pilgrim Health Care	1, 8, 10, 20,109, 115, 126,131	1, 8, 10, 20, 37, 39, 95, 109, 115, 131, 210, 221, 223, 230, 231
Health New England	14, 24, 110, 127	14, 24, 38, 110, 127
Healthsource New Hampshire	45, 90	45, 72, 90, 165
John Hancock Life Insurance	57, 82	57, 82
Kaiser Foundation Health Plan of Massachusetts. Inc.	40, 112, 129	40, 112, 129, 169
Mass Mutual *(now Unicare)*	60, 76	97, 270
Matthew Thornton Health Plan	19, 132	19, 132
Metrahealth *(formerly MetLife and Traveler's - now United Healthcare of New England)*	15, 16, 32, 41, 61, 68	35, 36, 74, 96, 157, 158, 163, 172
Mutual of Omaha Life Ins.	62	33, 62, 201
Neighborhood Health Plan	47, 113	47, 113, 211
New York Life Insurance	64	34, 64, 202
Pioneer Health Care	25, 79	25, 79, 183
Private Health Care Systems	92	84, 166, 184
Prudential Insurance	17, 18, 26, 66, 75, 137	17, 18, 66, 75, 137
Time Insurance Company	94	94
Tufts	7, 80, 116, 133	7, 80, 116, 133, 224
Unicare *(includes Mass Mutual medical insurance - sold to Unicare)*	60, 76	97, 182, 270
United Health Plans of New England *(subsidiary of United Healthcare; United Health Plans formerly Ocean State Physician's Plan)*	5, 9, 114, 130	9, 73, 86, 114, 232, 233
US Healthcare	48, 117	48, 69, 83, 170, 225
Wasau Insurance	102	102

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